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ABSTRACT

Drawn from the presentations at the eighteenth and nineteenth annual conferences of the North Central Reading Association, this yearbook includes sections on programs and centers; materials and techniques; evaluation; and professional growth and issues. Papers include: "Successfully Effecting Change on Personality Variables through Academic Skills Training" (Sue Donelson Johnson); "Reading Instruction and Related Problems at a Junior College" (Charles Bruckerhoff); "An Eight-Week Summer Program in Reading, Writing, and Study Skills for Student Nurses" (Ken L. Dulin and Charles W. Hetzel); "An Investigative and Descriptive Study and Profile of Entering University of Illinois EOP Students" (Grace A. Millas and Boyd B. Jackson); "Questions Before After or Anywhere" (J. Jaap Tuinman and Emily Menzel); "Order in Discourse and Reading Efficiency" (John C. Schafer); "An Analysis of the Entwistle Study Skills Inventory and Its Contribution to the Prediction of Academic Achievement with a Community College Population" (Mark E. Thompson); "Reading and Evaluation: Perspective 1984" (David Nelson); "Students' Judgments of Their Own Reading Ability" (Karl Koenke and others); "The Relationship of Reading and Writing Instruction at the College Level" (Barry M. Kroll); "The Effect of Modeling Classroom Management Principles in a Graduate Class on Reading toward Implementation in Teacher's Own Classes" (Rowena M. Wilhelm); "How Can We Ensure Competencies to Reading Instructors? Part I--Matching a Hierarchy of Competencies to Undergraduate and Graduate Course Labels" (Wayne A. King); "Part II--Providing Self-Instructional Modules" (Richard Ballard); "Part III--Providing Practicum Experiences" (Marylen Oberman); "Part IV--Providing Internship Experiences" (Laurice Bissell); and "The College Reading Specialist as Instructional Technologist" (Donald E. P. Smith). An appendix presents a summary table of contents, an author index, and a topical index of volumes 1 through 8 of the yearbooks. (RS)

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# COLLEGE and ADULT READING

## VOLUME VIII

THE EIGHTH YEARBOOK
OF THE NORTH CENTRAL
READING ASSOCIATION

Edited by

JOSEPH A. FISHER
Reading & Study Skills Clinic
Drake University

1977

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# PREFACE

The proceedings of the nineteen annual conferences held by the North Central Reading Association have been periodically edited into a series of volumes referred to by long tradition as Yearbooks of the North Central Reading Association. This eighth such compilation is drawn from the presentations made at the eighteenth conference held at Drake University and arranged by Joe Fisher, and the nineteenth conference held at Michigan State under the joint direction of Rowena Wilhelm and Rosemarie Nagel. The organization extends a special thanks to these individuals for making the meetings physically possible, to the program participants for making them so professionally profitable, and to those who attended for making them so socially satisfying. The organization prides itself on the air of informal supportive intimacy which characterizes these yearly gatherings, and obviously this tradition is finding continued support in the membership.

The yearbook editor is charged with the responsibility of actually selecting, gathering, editing, and preparing copy for the printer. These responsibilities were carried out by Alton Raygor for the first two yearbooks, and Dave Wark has edited the five yearbooks which have been produced since 1965. The organization owes a debt of thanks to both of these dedicated men for their role in preserving the collected thought and wisdom of the profession as represented by the papers included in the seven volumes of the series they edited.

It is particularly fitting to take time to express special appreciation to Dave Wark for his years of able and dedicated service to NCRA. Dave, who has served as financial secretary as well as editor and member of the board of directors during these many years, turns the duties of editor to new hands with the appearance of the eighth yearbook. Fortunately, he will continue to serve NCRA in his other capacities and we can hope that his many fine presentations, which have done so much to add challenge and stimulation to our annual meetings in the past, will continue unabated.

One of the founding purposes of the NCRA was to foster research and experiments in the field of adult reading and study skills. This has, in recent years, been given formal expression by the establishment of the Roger Pepper Memorial Award presented in recognition of an outstanding doctoral dissertation in the field of college reading and study skills. In this volume we take great pleasure in publishing the most recent dissertation to receive this award. The Association is pleased to be able to recognize Sue Donelson Johnson's excellent research in this way.

Readers will notice that a three part appendix has been added to this issue of the yearbook. Part I, Summary Table of Contents of NCRA Yearbooks, prepared by Merrill May, provides an interesting perspective on the types of programs that have been offered by the Association in the past. Part II, Author Index, was also prepared by Merrill May. A review of this list is eloquent testimony of the caliber of contributors to the yearbooks and the quality of work carried on by members of the Association. Part III, by Joe Fisher, is a Topical Index intended to make the valuable contents of the yearbooks more readily available to students and others wishing information on selected topics.

Finally, the editor wishes to thank those many people who made this publication possible, the authors, program hosts, conference participants, and in a special way, the Board of Directors. Special recognition should be given to Mrs. Margaret Foglesong whose dedicated professional skills have prepared the present manuscript for publication. I also wish to thank the Office of Student Development Services at Drake University for granting me both time and facilities to shepherd this project to what I sincerely hope will become a worthy successor to the previous volumes in this series of yearbooks.

Joseph A. Fisher

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# Successfully Effecting Change on Personality Variables Through Academic Skills Training

by

Sue Donelson Johnson
University of Minnesota

Most reading and study skills instructors would agree that improvement in study skills ought to stimulate improvement in self-concept as well as positive changes in other personality variables. This study clearly demonstrates a relationship between skills improvement and personality growth.

Over the past fifty years, research, as summarized by Robinson (1952), Russell (1947), and Witty (1950), has repeatedly given support to a relationship between personality and reading. The studies have been largely correlational in nature and the cause-effect question remains unanswered.

The literature on skills programs (Entwisle, 1942; Tillman, 1971), particularly emphasizing reading, has continuously indicated the merits of improvement from instruction in terms of grade point average and decreased school attrition. Repeated reference to influencing personality variables has been made but not substantiated.

The detrimental effects of anxiety on academic success have frequently been observed (Larson, 1972) and the relationship between self-concept and academic success often supported (Prows, 1967; Sarma, 1971).

Before 1957, only three studies (Sherburn, 1938; Solomon, 1948-1950; and Raygor, 1957) examined personality change due to skills training. From this date until Sayle's introduction of the term "skills therapy" in 1965, there were only three additional studies considering personality change (Dunham, 1960; Seay, 1960; and Englander, 1960). Approximately twenty-five studies done since 1965 that focused particularly on the variables of anxiety and self-concept were located. Few studies have been conducted at the college level; yet there are hundreds of reading and study skills programs in higher education.

While in most cases, improvement, as measured by a variety of instruments and methods, was found following some kind of skills learning, designs were not rigorous. No single study seemed appropriate as a prototype to explore change on personality variables resulting from skills training. This study, which attempted to eliminate some of the design problems of earlier research, examined changes on selected personality variables assumed important to academic success.

## Methods and Procedures

The design was a three group pre-post experiment. Subjects were 108 metropolitan community college students from behavioral science classes who volunteered to participate in testing on personality, skills and aptitude measures. All were given an opportunity to indicate interest in a short course in efficient study. The 78 students

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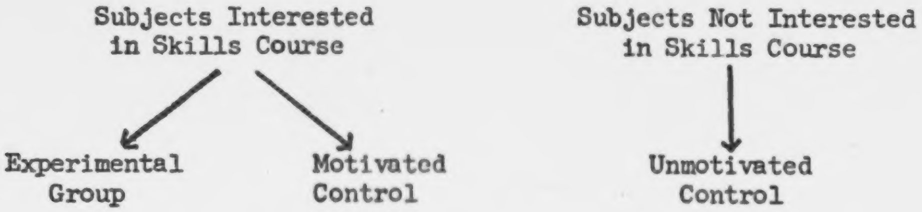
indicating interest in the skills course were randomly divided into two groups. One group served as Experimental; the other served as a Motivated Control. The third group, termed an Unmotivated Control, was composed of 30 students interested in the testing phase only. (See Figure 1.)

Pre-testing included the Omnibus Personality Inventory, Academic Feelings Questionnaire, MHBSS Reading Test, and a Reading at Efficient Rates exercise. The Shipley-Hartford Verbal Recognition Test was also given as a measure of intellectual aptitude.

The experimental group then received a three week, nine hour efficient study course. Topics included (1) reading efficiency; (2) comprehension attacks; (3) text study techniques; (4) listening and notetaking; (5) test preparation and test taking; and (6) time scheduling and behavior control. Each day of instruction included: (1) some timed reading practice using Raygor and Schick's Reading at Efficient Rates Exercises applying a technique for skimming or scanning or comprehension attack; (2) practice transferring techniques to other materials such as newspapers, magazines and textbooks; (3) some theory and practice on one of the 4 T's needed to build a successful study attack on any course. The 4 T's are Text, Talk (lecture), Test, and Teacher/You (Johnson, 1968). Assignments were made such as determining rates for effective study methods on textbooks, making contracts, and planning schedules; but no effort was made

Figure 1--Study Design


Subjects Interested in Skills Course
Subjects Not Interested in Skills Course
Experimental Group
Motivated Control
Unmotivated Control

| | Experimental Group | Motivated Control | Unmotivated Control |
|---|---|---|---|
| Pretest | Test | Test | Test |
| 3 Weeks | Efficient Study Course | No Treatment | No Treatment |
| Post test | Test | Test | Test |

Sue Donelson Johnson

to enforce or regulate completion.

There was limited personal interaction between instructor and students, and no counseling was done. No credits were given the two Control groups; although the Experimental group had the option of registering for one credit of independent, non-transfer work upon completion of the project. The two Control groups received no treatment during this three week period.

Post testing for all groups followed on all pretest instruments.

The study was directed at the following questions:

1. Does receiving skill instruction improve scores on personality variables? That is, will the Experimental group perform better than the Control groups?

2. Does the desire to participate in a skills program affect scores on personality variables? That is, will the Motivated Control group perform differently from the Unmotivated Control group?

In view of the above question, the data was best analyzed by using two orthogonal contrasts, each answering one of the above questions.

Contrast 1. The difference between the mean of the Experimental group minus the average of the means of the two Control groups.

Contrast 2. The difference between the means of the Motivated and Unmotivated Control groups.

The above contrasts were analyzed for both pre-and post test data. The pretest information was only used to demonstrate that no differences between groups existed at the beginning of the study.

Further analyses were performed to investigate the effects of sex, age, and intelligence. Since this was an exploratory study, no attempt was made to examine their interactions.

## Results and Discussion

As expected, the Experimental group performed better on nearly all skill measures (Johnson, 1975). Differences favoring the Experimental group over both Control groups (Contrast 1) were obtained on most personality variables. Few differences on personality variables were observed between the Motivated and Unmotivated Control groups (Contrast 2). Table 1 reports the average of differences, T-values, and P-values, and P-values for Contrasts 1 and 2 on the variables from the OPI and the Academic Feelings Questionnaire which were expected to be influenced by treatment. (Cf Table 1)

Table 2, showing means and standard deviations for all three groups, is included for additional information.

Table 1

CONTRASTS ON PERSONALITY VARIABLE MEASURES AT POST TESTING

| Personality Variable | Contrast 1 Experimental Minus Average of Control | | | Contrast 2 Motivated Control Minus Unmotivated Control | | |
|---|---|---|---|---|---|---|
| | Value | T-Value | P-Value** | Value | T-Value | P-Value*** |
| Omnibus Personality Inventory | | | | | | |
| Thinking Introversion | 3.50 | 1.85 | .033 | .60 | 2.25 | .791 |
| Complexity | 3.76 | 2.00 | .025 | -2.13 | - .95 | .346 |
| Autonomy | 3.36 | 1.89 | .031 | -4.02 | -1.89 | .061 |
| Anxiety Level* | 2.82 | 1.39 | .085 | -2.03 | - .84 | .404 |
| Response Bias* | 2.21 | 1.24 | .109 | 2.26 | 1.06 | .293 |
| Intellectual Disposition Category* | - .62 | -2.09 | .020 | .10 | .35 | .778 |
| Academic Feelings Questionnaire | -24.35 | -3.73 | .000 | 3.97 | .509 | .612 |

* Lower scores indicate high amount of trait.
** Based on one-tailed hypothesis.
*** Based on two-tailed hypothesis.

## Table 2

## DESCRIPTIVE STATISTICS ON PERSONALITY VARIABLE MEASURES AT POST TEST BY GROUPS

| Personality Variables | Experimental (N=38) | | Motivated Control (N=40) | | Unmotivated Control (N=30) | |
|---|---|---|---|---|---|---|
| | Mean | s.d. | Mean | s.d. | Mean | s.d. |
| Omnibus Personality Inventory | | | | | | |
| Thinking Introversion | 49.00 | 8.19 | 45.80 | 9.27 | 45.2 | 10.68 |
| Complexity | 52.03 | 9.67 | 47.20 | 8.92 | 49.30 | 9.41 |
| Autonomy | 56.45 | 7.52 | 51.07 | 9.90 | 55.10 | 8.72 |
| Anxiety Level* | 52.74 | 10.11 | 48.90 | 10.81 | 50.93 | 10.10 |
| Response Bias* | 50.21 | 8.25 | 49.12 | 10.15 | 46.87 | 7.58 |
| Intellectual Disposition Category* | 5.13 | 1.46 | 5.80 | 1.36 | 5.70 | 1.60 |
| Academic Feelings Questionnaire | 88.87 | 34.36 | 115.20 | 29.20 | 111.23 | 33.33 |

* Lower scores indicate high amount of trait.

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The Experimental group was not as different from the Controls on anxiety level and response bias as on other variables. Though the pretest scores are not included, the Experimental group scores showed a decrease in anxiety despite the pressures of the final exam period coinciding with the posttesting. Control group scores indicated an increase in anxiety.

Scores on the Academic Feeling Questionnaire developed by the author (Johnson, 1975) confirmed this trend of reduced anxiety for the Experimental group. This instrument was made up of items related to the efficient study course. These items reflected the specific anxiety attached to academic tasks rather than the general anxiety of the OPI measures.

The investigation of differences between age, sex, and intellectual aptitude resulted in no effects.

## Conclusion

The investigation showed that even a short treatment period can improve not only skills, but also can effect a positive change on personality variables. Questions subject to further study include (1) whether these changes can be retained over time; (2) whether such changes can be generalized to other populations; and (3) whether adding personal interaction and counseling to the skills instruction would have an effect.

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# Reading Instruction and Related Problems at a Junior College

by

Charles Bruckerhoff

Reading instruction is generally thought of as one of the basic components of the school curriculum. The reasons accounting for the importance of reading focus upon the ultimate objective of developing the literacy level of every person in the nation to a point considered to be adequate for him to respond to written language. It is believed that, with an appropriate set of reading skills, this person can avail himself of the total cultural heritage as it is recorded in written form and eventually better himself materially, socially, and aesthetically.

Of crucial importance to implementation of any educational program, in the science of learning as in the physical sciences, is the theory upon which the practice is based. However, the notion of what is involved in reading falls short of the sophisticated level necessary for accomplishing the ultimate goal of professionals in the field of reading. Nearly everyone agrees that reading involves much more than the passive processing of graphic units. Beyond the mere perceptual nature of the reading task are the cognitive aspects of the process, requiring the person exposed to print to actively and elaborately organize his thinking. He selects information and processes it in a highly complex manner and eventually derives meaning. As a consequence of his perceptual and cognitive processing of the written material, the reader emotionally reacts to the total reading experience. Each of these three aspects - the perceptual, the cognitive, and the affective is of importance to the reader.

In an article explaining the importance of reasoning to the reading process, Thorndike (1974) suggests that reading tasks call for "some one common ability." He believes that through measurement of verbal intelligence or scholastic aptitude, this common ability can be distinguished and "may be thought of as verbal reasoning." A student's competence with verbal reasoning may to a great extent determine his academic performance whenever written materials are central to the learning experience. Limited comprehension may then be understood to be due not primarily to "a deficit in one or more specific and readily teachable reading skills but as a reflection of generally meager intellectual processes."

Traditionally, a student is expected to have sufficiently developed his reading skills by the end of elementary school so that further instruction in reading is necessary only for remediation. But educators at the secondary level of education are reporting that there is a growing number of students who are not adequately prepared to meet the reading requirements expected of them in school. This reading deficiency spirals and extends beyond the high school to include some of the best colleges and universities in the country. (Hodgins, 1970)

Generally speaking, admissions policies of junior colleges are lower than those of most four year institutions and as a result one can expect to find many individuals enrolled there with academic backgrounds not equivalent to that of students whose secondary education is college preparatory. Like students entering other colleges, many junior college students are also not as skillful at reading as they need to be to complete reading assignments expected of them in college credit courses. (Schenz, 1964)

Research concerned with reporting on developmental and remedial programs at the college level note the varying degrees of success of these programs. (McDonald and Byrne, 1960; Entwisle and Entwisle, 1960; Bahe, 1969) One of the main arguments leveled at the accounts of college level reading programs is that they are simply subjective evaluations. There seems to be a need for a more scientific approach to the design, implementation and evaluation of reading programs at the college level.

The purpose of the present study was to investigate the level of agreement on the part of faculty, administration and students regarding mastery of certain language arts skills which may be related to the students' successful handling of typical classroom reading assignments. It was hypothesized that (1) certain instructional methods and evaluative procedures would require mastery of certain language arts skills; (2) that the students should have mastery of these language arts skills; and finally, (3) that the reading teacher, (4) along with a significant number of content teachers, did not teach these critical language arts skills.

In a recent survey a questionnaire was prepared and personally distributed by the investigator to the faculty, administration and students at East Central Junior College in Union, Missouri. The questionnaire was designed to provide the experimenter with information about what might be the major goals and problems of students, how often teachers ordinarily employed these goals and problems as corrective procedures for students, and what different people perceived major prerequisites to good learning in school to be. Forty members of the staff at East Central Junior College received questionnaires. Eighty percent of these persons returned their questionnaires within the three day period of the investigation. Also, fifty students were randomly selected to complete Scale I of the questionnaire. All fifty were returned to the experimenter.

The following measures were used to analyze the results of this study: the Kendall Coefficient of Concordance (W); a test of the significance of W ($x^2$); the Spearman Rank Correlation Coefficient (rho); and a table of critical values of rho. (Siegel, 1956)

Each statement of an instructional method and evaluative procedure that appeared on the questionnaire was shortened for the tables that follow. The reader is encouraged to consult the complete statement as it appeared on the questionnaire. (cf pg. 26 ff.)

When comparing the rank-ordering from Scale I of the twelve major goals/problems of the students by the reading teacher with that of the students, a very high correlation (rho = .80) was found. (It is important to note that the rank-ordering of the reading teacher was not a mean rank-ordering.) The reading teacher's perception of these major goals-problems of students was in nearly perfect agreement with the perception of the population of students. By comparison with the above, a much lower level of correlation (rho = .43) was found between the reading teacher's perception of these twelve major goals-problems of students was in nearly perfect agreement with the perception of the population of students. By comparison with the above, a much lower level of correlation (rho = .43) was found between the reading teacher's perception of these twelve major goals/problems of students and that of the faculty. An examination of the rank-orderings of the groups of subjects marked Reading, Student, and Faculty in Table 1 attests to this difference. Because the reading teacher arranged the major goals/problems of students in a different rank-ordering from that of the content teachers, the major goals/problems of students of lower academic ability might be neither clearly

Table 1

Mean Rank-Ordering of Instructional Methods and Evaluative Procedures, Level of Intra-Group Agreement (W), and Significance ($x^2$) by Ten Different Groups of Subjects

Scale I

| Instructional Methods | Reading | Science | Language & Literature | Business | Applied Science | Physical Education | Para-professional | Administrator | Student | Faculty |
|---|---|---|---|---|---|---|---|---|---|---|
| development of listening and note taking skills | 3 | 5 | 4 | 6.5 | 5 | 4 | 5.5 | 1 | 2 | 7 |
| ability to logically organize knowledge | 6 | 1 | 1 | 1 | 1 | 1 | 5.5 | 2 | 5 | 1 |
| use background experiences when reading | 10 | 3 | 5 | 6.5 | 7 | 6 | 7 | 5 | 8 | 6 |
| efficient with underlining textbooks and handouts | 7 | 11 | 12 | 10 | 11 | 11 | 9 | 10 | 12 | 12 |
| ability to express main idea and supporting details | 4 | 6 | 8.3 | 3 | 3.5 | 7 | 2 | 4 | 6 | 4 |
| becoming efficient, capable, and productive | 1 | 7 | 8.3 | 2 | 2 | 3 | 8 | 6 | 1 | 3 |
| improve comprehension and vocabulary deficiencies | 8 | 4 | 3 | 4.5 | 3.5 | 5 | 1 | 7.5 | 4 | 2 |
| learning tips for taking examinations | 9 | 10 | 11 | 8 | 10 | 2 | 10 | 11 | 9 | 10 |
| development of competency in discussion groups | 12 | 12 | 6 | 12 | 12 | 12 | 11 | 7.5 | 11 | 11 |
| learning how to raise questions in class | 11 | 9 | 8.3 | 11 | 8 | 10 | 12 | 12 | 10 | 5 |
| gaining proficiency in carrying out directions | 5 | 2 | 7 | 4.5 | 6 | 9 | 4 | 3 | 7 | 9 |
| improvement of reading speed | 2 | 8 | 2 | 9 | 9 | 8 | 3 | 9 | 3 | 8 |
| W = |  | .81 | .72 | .55 | .57 |  | .38 | .39 | .21 | .46 |
| $x^2$ = p< |  | .001 | .001 | .01 | .02 |  | .05 | .05 | .001 | .001 |

perceived nor corrected by the reading teacher or the content teachers.

What the faculty chose to be the most common goal/problem of students, "gaining the ability to logically organize a body of knowledge to solve a problem, create a logical argument, and/or follow an argument," the reading teacher placed sixth and the students placed fifth. Thus, the content teachers were in general agreement (W = .46) that this was a major goal/problem of many students. For some reason, the reading teacher and the students were not convinced of this.

An examination of the results which reported on the verbal or oral aspects of certain language arts skills revealed that scarcely any goals/problems existed. With the possible exception of the language and literature group, all other content area groups (the students also) were in general agreement that these items were much lower on the scale of most common goals/problems of students (cf. development of competency in discussion groups, learning how to raise questions, ability to express the main idea and supporting details.) Additionally, scale II revealed that the reading teacher hardly ever employed as a corrective procedure, the "development of competency in small-group, panel, and full class discussions." The faculty (language and literature was the exception) was very nearly in agreement with the reading teacher.

Scale III required that the subjects consider ten factors and then rank-order them in terms of which ones were the most important prerequisites to good learning in school. In other words, if some students had not developed certain of these factors before they came to the junior college, they might be expected to encounter some difficulty with completion of their course work at the junior college. Furthermore, one could assume that such students might not receive corrective or remedial assistance in the development of some of the prerequisites. However, it must be understood that this list of major prerequisites to good learning in school was not a definitive list.

What the reading teacher and the faculty were in general agreement about concerning what should be at the top of this rank-ordering were: "the ability to comprehend written material at both the literal and interpretive levels;" and "possession of a good reading, speaking, and listening vocabulary" (see Table 2). In reflecting upon the presumed importance of the former, it was unfortunate that the items placed on this scale were not also rank-ordered by the subjects as major goals/problems of students. Considering that "the ability to comprehend written material at both the literal and interpretive levels" was given one of the highest rank-orderings as a major prerequisite to good learning in school, it is quite probable that this could also be perceived as a major goal/problem of students.

## Table 2

Mean Rank-Ordering of Instructional Methods and Evaluative
Procedures, Level of Intra-Group Agreement (W),
and Significance ($x^2$) by Nine Different
Groups of Subjects
Scale III

| Instructional Methods | Groups of Subjects | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Reading | Science | Language & Literature | Business | Applied Science | Physical Education | Para-professional | Administrator | Faculty |
| ability to organize, study, and memorize | 4 | 4 | 9 | 2.5 | 7 | 3 | 4 | 3 | 5 |
| ability to discuss issues orally | 7 | 6.5 | 3 | 5.5 | 6 | 1 | 6 | 4 | 6 |
| ability to write coherent sentences and paragraphs | 5 | 3 | 5 | 1 | 9.5 | 4 | 3 | 5 | 3 |
| possession of good vocabulary | 2 | 1 | 2 | 2.5 | 3.5 | 2 | 1 | 1 | 1 |
| ability to add logically related incidents | 9 | 5 | 4 | 5.5 | 1 | 10 | 9 | 8 | 4 |
| ability to find ideas thru independent reading | 3 | 6.5 | 10 | 7 | 5 | 5 | 5 | 6 | 7 |
| willingness to venture spontaneous response | 10 | 8 | 6 | 8 | 2 | 6 | 7 | 9 | 8 |
| ability to repeat or paraphrase ideas | 6 | 10 | 7.5 | 9 | 9.5 | 7 | 8 | 7 | 9 |
| ability to dispute allegations | 8 | 9 | 7.5 | 10 | 8 | 8 | 10 | 10 | 10 |
| ability to comprehend - literal and interpretive | 1 | 2 | 1 | 4 | 3.5 | 9 | 2 | 2 | 2 |
| W =<br>$x^2$ = p< | | .44<br>.001 | .65<br>.01 | .56<br>.02 | .32<br>.30 | | .79<br>.001 | .77<br>.001 | .31<br>.001 |

The rank-ordering by the reading teacher and the faculty of the "ability to add logically related incidents to typical classroom discussions," and the "ability to find facts and ideas related to classroom topics through independent reading" presented somewhat of a puzzle to the experimenter. Table 3 showed the reading teacher and the faculty gave the following rank-order to these items: reading teacher - 9th and 3rd; faculty (mean) - 4th and 7th, respectively. Again, it is regrettable that these items were not also rank-ordered as major goals/problems of students. But, looking upon them as major prerequisites to good learning in school was thought to be significant to this study. In the discussion of the verbal and oral aspects of critical language arts skills found in scales I and II, it was noted that the results of the data showed that such items were generally not perceived by the subjects as major goals/problems of students. In scale III, however, the faculty was at a fair level of agreement (rank-order 4th, W = .31) concerning the relative importance of the "ability to add logically related incidents to typical classroom discussions" as a major prerequisite to good learning in school. The mastery of this language arts skill was obviously thought to be of some importance to the students' learning experience. Yet, it could not be determined whether the students of lower academic ability had this mastery and, if they did not, whether the deficiency was recognized and corrected by the reading teacher or the content teachers.

Recalling that the faculty was in general agreement (W = .46) concerning the rank-ordering on scale 1 of "gaining the ability to logically organize a body of knowledge to solve a problem, create a logical argument, and/or follow an argument" as a major goal/problem of students, why did the faculty place the "ability to find facts and ideas related to classroom topics through independent reading" seventh in the rank-ordering of major prerequisites to good learning in school? Based upon the results obtained from scales I and II, it seemed that one would have to assume that "the ability to find facts and ideas related to classroom topics through independent reading" would be taught in most content areas at the junior college. On the other hand, it could be interpreted to mean that the "ability to find facts and ideas related to classroom topics through independent reading" might be thought of as being of little consequence to the students' academic success.

In summary, the major findings of scales I, II and III can be briefly stated as follows. First, requiring the subjects to rank-order twelve major goals/problems of students did result in a significant level of agreement within the different groups of subjects. Second, the subjects seem to be making an effort to employ the major goals/problems of students did result in a significant level of agreement within the different groups of subjects. Second, the subjects seem to be making an effort to employ the major goals/problems of students did result in a significant level of agreement within the different groups of subjects. Second, the subjects seem to be making an effort to employ the major goals/ problems of students as corrective procedures in their classes. Third, a significant amount of disagreement was found between the rank-ordering by the reading teacher (students included) and the rank-ordering by the faculty of certain major goals/problems of students and certain prerequisites to good learning in school. Finally, presenting the subjects with the task of rank-ordering certain statements of major goals/problems of students and certain pre-requisites to good learning in school, created results which prompted some questions regarding the methods of instruction and the procedures for evaluation which would enable the students to demonstrate their inculcation of knowledge and, at the same time, would provide the reading teacher and the content teachers with an objective view of the students' level of mastery (students of lower academic ability particularly) with the content.

It remains to be seen whether another investigation would yield comparable results. Additionally, as mentioned before, the major prerequisites to good learning in school should be perceived by the subjects as major goals/problems of students so that a move valid criticism of the results can be made.

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EAST CENTRAL JUNIOR COLLEGE
UNION, MISSOURI 63084

# An Inventory of Instructional Methods and Evaluative Procedures

by
Charles Bruckerhoff
University of Wisconsin--Madison

A matching of names with inventories has no usefulness for the collection and analysis of this data. All response sheets will remain anonymous.

- CEB -

1. Of the two classifications below, which is your major concern? Please circle one.

   a. Teacher     b. Administrator

2. What is your department of major affliation?____________________

3. With which of the following groups of students do you ordinarily do most of your teaching? Please circle the correct letter.
   a) College transfer
   b) Technical/Vocational
   c) Remedial

4. How many years have you been teaching on a college level? Please circle one category.

   0 to 5   6 to 10   11 to 15   more than 15

5. What is the extent of your formal educational background? Please circle the best answer.

   BA, BA + 15, BA + 30, MA or MS,
   MA + 15, MA + 30, MA + over 30,
   PhD

6. Do you assign textbooks, typed handouts, or other reading materials as learning aids for students in your classes?

   ___yes
   ___no
   ___for some courses, but not all

I. To provide me with some perception of what you believe are the major goals/problems in terms of how common you feel they generally are. Make the one you feel is the most common "1", the next "2," and so on. Please respond to all items.

| | |
|---|---|
| Development of good listening and note taking skills. | |
| Gaining the ability to logically organize a body of knowledge to solve a problem, create a logical argument, and/or follow an argument. | |
| Learning how to use background experiences to understand what is read. | |
| Becoming efficient with underlining or highlighting textbooks and class handouts. | |

| | |
|---|---|
| Acquiring the ability to accurately express the main idea and supporting details of text assignments if background information and prereading instructions are given. | |
| Becoming more efficient, capable, and productive to eliminate wasted time and effort. | |
| Improvement of general comprehension and vocabulary deficiencies specific to the course of instruction. | |
| Learning general tips and procedures for taking examinations: objective, short answer, essay. | |
| Development of competency in small-group, panel, and full-class discussions. | |
| Learning how to raise pertinent questions in the classroom. | |
| Gaining proficiency in carrying out directions for an experiment or assignment and coherently reporting on it. | |
| Improvement of reading speed and development of more diversified reading habits. | |

II. And now, in this section, please respond to each of the same goals/problems in terms of how often you ordinarily employ them as corrective procedures for students in your classes. Check the response which most nearly approximates your perception. Please respond to all items.

1. Becoming more efficient, capable, and productive so as to eliminate wasted time and effort

I employ this corrective procedure:

| almost always | most of the time | some of the time | hardly ever | never |
|---|---|---|---|---|
| | | | | |

2. Development of competency in small-group, panel, and full-class discussions

I employ this corrective procedure:

| almost always | most of the time | some of the time | hardly ever | never |
|---|---|---|---|---|
| | | | | |

3. Gaining the ability to logically organize a body of knowledge to solve a problem, create a logical argument, and/or follow an argument

I employ this corrective procedure:

| almost always | most of the time | some of the time | hardly ever | never |
|---|---|---|---|---|
| | | | | |

4. Development of good listening and note taking skills.

I employ this corrective procedure:

| | | | | |
|---|---|---|---|---|
| almost always | most of the time | some of the time | hardly ever | never |

5. Learning how to raise pertinent questions in the classroom.

I employ this corrective procedure:

| | | | | |
|---|---|---|---|---|
| almost always | most of the time | some of the time | hardly ever | never |

6. Acquiring the ability to accurately express the main idea and supporting details of their text assignments if background information and pre-reading instructions are given.

| | | | | |
|---|---|---|---|---|
| almost always | most of the time | some of the time | hardly ever | never |

7. Learning how to use their background experiences to understand what they read.

| | | | | |
|---|---|---|---|---|
| almost always | most of the time | some of the time | hardly ever | never |

8. Improvement of general comprehension and vocabulary deficiencies specific to the course of instruction.

I employ this corrective procedure:

| | | | | |
|---|---|---|---|---|
| almost always | most of the time | some of the time | hardly ever | never |

9. Becoming efficient with underlining or highlighting textbooks and class handouts.

I employ this corrective procedure:

| | | | | |
|---|---|---|---|---|
| almost always | most of the time | some of the time | hardly ever | never |

10 Learning general tips and procedures for taking examinations: objective, short answer, essay.

I employ this corrective procedure:

| | | | | |
|---|---|---|---|---|
| almost always | most of the time | some of the time | hardly ever | never |

11 Gaining proficiency in carrying out directions for an experiment or assignment and coherently reporting on it.

I employ this corrective procedure:

| | | | | |
|---|---|---|---|---|
| almost always | most of the time | some of the time | hardly ever | never |

12 Improvement of reading speed and development of more diversified reading habits.

I employ this corrective procedure:

| | | | | |
|---|---|---|---|---|
| almost always | most of the time | some of the time | hardly ever | never |

III. And finally, to give me some perception of what you feel are the major prerequisites to good learning in school, please rank-order the following ten factors in terms of how important you feel each is for a student's overall academic success. Start with 1 for the most important prerequisite. Please respond to all items.

| | |
|---|---|
| ability to organize, study, and memorize factual material | |
| ability to discuss issues orally | |
| ability to write coherent and grammatically correct sentences and paragraphs | |
| possession of a good reading, speaking, and listening vocabulary | |
| ability to add logically related incidents to typical classroom discussions | |
| ability to find facts and ideas related to classroom topics through independent reading | |

| | |
|---|---|
| Willingness to venture a spontaneous response to a question. | |
| ability to repeat or paraphrase ideas | |
| ability to dispute allegations made by students or teachers in the classroom | |
| ability to comprehend written material at both the literal and interpretive levels | |

Thank you for your cooperation in the collection of this information. The analysis, interpretation, and summary of this material will be completed and made available as soon as possible. It is my hope that this research will provide everyone at East Central Junior College with useful ideas for improving instruction at this fine institution.

-CEB-

# An Eight-Week Summer Program in Reading, Writing, And Study-Skills for Student Nurses

by
Ken L. Dulin
and
Charles W. Hetzel
The University of Wisconsin-Madison

For several years now, a good many Equal Opportunity Programs have been operating in colleges and universities around the country. The usual pattern of these programs has been to recruit minority-group students who appear to have basic ability but haven't planned to go to college, to arrange for either grants or loans for their financial support during their college years, and then to enroll them in programs which either provide specific counseling and tutoring help along the way or longer-than-usual completion times, or sometimes both.

Some of these programs have been quite successful, but others have not; both drop-out and flunk-out rates in a good many of them have been much higher than predicted. Several explanations for these failures have been posited, some related to psychosocial matters and others related directly to program problems.

Some people involved in these programs feel that their very recruitment nature is at fault, that students not really basically motivated to expend the necessary effort for college success are often drawn into them; and to some degree this is probably true.

Many students do enter these programs with few family or peer models of academic success to draw support from, and in some cases there are even home, family, and peer pressures working against their continuing on in school.

Others see ethnic-identity and ethnic-group affiliation problems on campus as a major problem. Plunged into a predominantly middle-class, WASP cultural group, they say, these students feel rootless and lost, and often react to this either by spending too much time seeking social support from the few others of their own ethnic-group who are on campus or else by ultimately dropping out of school from sheer loneliness and simply returning home to their families and old friends. And in a good many cases this too is probably true.

Beyond these problems, however, a third area of difficulty for these students is almost always present: their relatively low levels of skill in reading, writing, and study skills. Though a certain level of high school success is almost always demanded of participants in these programs, it's usually measured in terms relative to the peer groups and high school settings they've been drawn from (at Wisconsin, for example, this is expressed as being in the top half of one's high school graduating class) and thus these standards turn out in actual practice to be very, very variable, with some students entering with reading test placements ranging clear down into the lower high school and junior high levels.

It's during the Freshman year, it seems, that all these problems are the most debilitating; if the EOP students can make it successfully through that year, when they're having to take their "general" college courses in competition with the total range of entering university students, they usually stay on and improve once they hit their "majors". In response to this, then, several of the Wisconsin EOP projects have initiated Summer Orientation Programs designed to give their participants "a running start" on the others and thus hopefully to get them over this first crucial year. One such program operates in the School of Nursing, and it's to this program that this paper is addressed.

## The Program

Overall, the 1974 program was eight weeks long and included testing, counseling, a math-science review, and the Reading-Writing-Study Skills course. In addition, a good many traditional "orientation" procedures--introducing the girls to the Nursing Program, acquainting them with the physical lay-out of the campus, and preparing them for registration week in the fall--took place, as well as several social outings and get-togethers with the EOP and Nursing School faculty and staff. Close to 15 students participated in some way in the program, but only nine were there for every day of the program, and it's on the basis of the pre-to-post performances of these nine that the formal evaluation of the program was finally made.

The Reading-Writing-Study Skills portion of the program was carried out during a daily one-and-a-half hour class each morning plus a once-a-week personal conference between each student and the instructor during the afternoons. The remainder of each morning was spent on the math-science review course, and the remainder of each participant's afternoon time was spent either on orientation activities or in open study-time.

Reading Improvement. The major portion of the reading improvement work dealt with the reading of exposition, since text book study was seen as the major kind of reading the participants would be facing during the following year. Each student did also read at least two fiction books during the summer and wrote book reports on them, but the *writing* techniques developed here were seen as the major goal of this activity.

Among the specific skills the instructor emphasized were knowledge and use of all the "extra" parts of a book (index, glossary, table of contents, etc.); survey and preview techniques as preludes to study and for review; general use of format aids as a guide to close, careful reading; and work in the improvement of vocabulary, particularly medical and scientific terms.

Among the books used both as instructor-resources and at times for in-class work were *Breaking the Reading Barrier* by Doris Gilbert; *Word Power Made Easy* by Funk and Lewis, and the dictionary.

Writing Improvement. Actually, this area of need turned out to be much greater than had been supposed at first, and a good deal more time ended up being spent on it than had been planned for originally when the program was set up. Here, too, expository writing was the main focus, not creative writing or narrative. As motivation, the instructor drew upon the group's upcoming needs for writing term papers in their fall courses and responding to essay type examination items in their subject matter tests.

As it turned out, a good deal of articulation between the skills of reading exposition and the skills of writing exposition was able to be established. The paragraph patterns stressed in Breaking the Reading Barrier, in particular, were of a great deal of help here, though basic work on sentence structure, tense and number agreement, and the mechanics of spelling and punctuation were also needed.

Study Skills Improvement. This part of the program, it was felt from past experience, would probably be the group's greatest need, and the pretests given during the first week bore out this expectation. In the very language of test taking, in fact, the students were very lacking, and so steps were taken to directly focus on this.

The general approach to study taken was the presentation of

Robinson's SQ3R approach and then a good deal of practice with it, with much of this practice being carried out in actual college level textbooks. Also, each participant was given a copy of Walter Pauk's How to Study in College, and group discussions were held on the relevance and use of many of his suggestions.

Specifically, though, test taking was treated as a learned skill, and a good deal of direct practice in taking tests was provided. The instructor directly taught the participants a long collection of the nouns, verbs, and adjectives used in test item construction and then made up practice tests in which these terms were used.

Also, special practice was provided in the taking of a particular type of test item used heavily in nursing course examinations (primarily because the State Nursing Board Exams also use them heavily), what the students call "multiple-multiples"; that is, multiple-choice items in which no one single foil is correct, but rather a combination answer is called for, like "A, B, and D above", "all but G above", or even "A, C, and sometimes F".

In summary, then, the Reading-Writing-Study Skills course (a) was focused as closely as possible upon the participants' direct, personal, course-related needs, (b) was modified at points in terms of the pre-test patterns of need discovered through analysis of the program's counseling and evaluation component, and (c) was implemented primarily through direct instruction and practice in as realistic, relevant materials as was possible.

## Evaluation

In all, the evaluation of the program was carried out in three general parts: the students' self-perceptions relative to a good many personal skills and abilities were compared before and after the program, the students' post-program ratings of various components of the program were gathered; and pre-to-post test data of several types were statistically analyzed.

Generally speaking, all of the results of the first two types of evaluation were positive: the students did feel the program was helpful; they did feel their instructors were knowledgeable, understanding, and skillful; and they did feel they had improved personally in most of their own study and learning skills. Also, their math and science scores all improved from the beginning of the program to the end. Of more importance to this program, however, are, of course, their reading, writing, and study skills.

Tables 1 and 2 present the results of the two pre-to-post comparisons directly related to reading. In terms of general reading grade placement, all but two of the girls gained (with the two slight losses occurring in two of the three highest scoring people on the pre-test, suggesting that perhaps regression to the mean could be

### TABLE 1

Participants' Pre-Program and
Post-Program Reading-Grade Placements*

| Participants | Pre-Program Placements | Post-Program Placements | Gains and/or Losses* |
|---|---|---|---|
| K. C. | 13.4 | 13.6 | +0.2 |
| D. D. | 8.5 | 8.9 | +0.4 |
| J. D. | 9.9 | 10.9 | +1.0 |
| M. E. | 12.6 | 13.6 | +1.0 |
| T. L. | 9.6 | 11.6 | +2.0 |
| M. P. | 12.4 | 10.9 | -1.5 |
| E. S. | 13.0 | 12.0 | -1.0 |
| G. S. | 8.9 | 9.3 | +0.4 |
| R. T. | 8.1 | 9.7 | +1.6 |
| Total Group Means | M = 10.7111 | M = 11.167 | +0.303 |

* In terms of California Reading Test Scores

** This pattern, when tested by the Wilcoxon Matched-Patched-Pairs Signed-Ranks Test, is significant at the level of $P < .025$, one-tailed test.

Dulin-Hetzel

## TABLE 2

### Participants' Pre-Program to Post-Program Gains and/or Losses in Reference-Reading Skills

| Participants | Pre-Program Scores | Post-Program Scores | Gains and/or Losses* |
|---|---|---|---|
| K. C. | 18 | 20 | +2 |
| D. D. | 17 | 19 | +2 |
| J. D. | 12 | 18 | +6 |
| M. E. | 18 | 19 | +1 |
| T. L. | 12 | 17 | +5 |
| N. P. | 9 | 15 | +6 |
| E. S. | 19 | 20 | +1 |
| G. S. | 12 | 19 | +7 |
| R. T. | 8 | 14 | +6 |
| Total Group Means | 13.9 | 17.9 | +4.0 |

* The probability of this pattern occurring by chance alone is P < .002 (one-tailed test).

involved) and all improved in reference type reading. The test scores reported in Table 1 are from the California Reading Test, and those reported in Table 2 are from an evaluator-developed instrument.

To judge the participants' growth in writing skills, the following method was used. Each student, after choosing from a list of possible topics, wrote both a pre-program and a post-program "essay" during two testing periods of forty-five minutes in length each, and these essays were then "judged" or "evaluated" in detail by three outside judges in terms of (a) various criteria (logic, organization, etc.) and (b) in terms of whether they felt the essay being read was a "before" training example or an "after" training one. All this judging was done after the program was completed and with no identifications other than randomly selected numbers present on the essays. Tables 3 and 4 present the results of these two sets of "blind" judgments. Not only was there good gain in terms of each of the criteria used, but also all three judges quite consistently identified the before-training essays from the after-training ones.

Table 5 reports the results of the group's pre-to-post progress on a specially prepared test of Test Taking Skills. This test had five parts: a very, very tricky true-false section, containing many absolute terms and double-negatives; three sections dealing with the verbs, nouns, and adjectives used heavily in test item

# Table 3

Three Judges' Pooled "Blind" Ratings* of Participants'
Pre-Program and Post-Program Essays in Terms of Five Criteria

| Participants | Directions of Essays | | | Organization of Essays | | | Logic of Essays | | | Mechanics of Essays | | | Penmanship of Essays | | | Total Ratings of Essays | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pre | Post | Gain** or Loss | Pre | Post | Gain** or Loss | Pre | Post | Gain** or Loss | Pre | Post | Gain** or Loss | Pre | Post | Gain** or Loss | Pre | Post | Gain** or Loss |
| K. C. | 10 | 13 | +3 | 8 | 12 | +4 | 9 | 12 | +3 | 14 | 11 | -3 | 12 | 13 | +1 | 53 | 61 | +8 |
| D. D. | 6 | 8 | +2 | 7 | 7 | 0 | 9 | 6 | -3 | 7 | 6 | -1 | 14 | 12 | -2 | 42 | 39 | -3 |
| J. D. | 10 | 13 | +3 | 9 | 13 | +4 | 8 | 12 | +4 | 6 | 12 | +6 | 13 | 14 | +1 | 46 | 64 | +18 |
| N. E. | 12 | 14 | +2 | 11 | 11 | 0 | 12 | 14 | +2 | 12 | 12 | 0 | 14 | 13 | -1 | 61 | 64 | +3 |
| T. C. | 12 | 14 | +2 | 13 | 13 | +6 | 10 | 13 | +3 | 9 | 11 | +2 | 11 | 13 | +2 | 49 | 65 | +16 |
| N. P. | 11 | 13 | +2 | 12 | 12 | +5 | 8 | 13 | +5 | 10 | 12 | +2 | 10 | 13 | +3 | 45 | 63 | +17 |
| E. S. | 13 | 13 | 0 | 14 | 14 | +2 | 10 | 14 | +4 | 12 | 10 | -2 | 13 | 12 | -1 | 61 | 63 | +2 |
| G. S. | 13 | 14 | +1 | 12 | 12 | +2 | 11 | 13 | +2 | 8 | 9 | +1 | 9 | 10 | +1 | 51 | 58 | +7 |
| R. T. | 10 | 14 | +4 | 13 | 13 | +6 | 6 | 12 | +6 | 9 | 5 | -4 | 12 | 14 | +2 | 44 | 58 | +14 |
| Total Group Mean | 10.8 | 12.9 | +2.1 | 8.7 | 11.9 | +3.2 | 9.2 | 12.1 | +2.9 | 9.7 | 9.8 | +0.1 | 12.0 | 12.7 | +0.7 | 50.2 | 59.7 | +9.5 |

* with a total of 15 (up to 5 points per judge) possible for each criterion and a total of 75 (5 times 15) possible for total rating.

** in terms of Sign Test analyses, the probabilities of these patterns of gains and/or losses occurring by chance alone are as follows: Direction, $P < .004$; Organization, $P < .008$; Logic, $P < .02$; Mechanics, $P < .637$; Penmanship, $P < .25$; Total Ratings, $P < .02$ (all one-tailed tests).

## Table 4

Chi-Square Analyses* of Three
Judges' Abilities to Identify Pre-Program
and Post-Program Participants' Essays

JUDGE #1

| | Judged "Before" | Judged "After" | |
|---|---|---|---|
| Actual "Befores" | 7 | 2 | 9 |
| Actual "Afters" | 2 | 7 | 9 |
| | 9 | 9 | 18 |

$x^2 = 3.556$
$P < .05$
(one-tailed test)

JUDGE #2

| | Judged "Before" | Judged "After" | |
|---|---|---|---|
| Actual "Befores" | 8 | 1 | 9 |
| Actual "Afters" | 3 | 6 | 9 |
| | 11 | 7 | 18 |

$x^2 = 3.740$
$P < .05$
(one-tailed test)

JUDGE #3

| | Judged "Before" | Judged "After" | |
|---|---|---|---|
| Actual "Befores" | 7 | 2 | 9 |
| Actual "Afters" | 4 | 5 | 9 |
| | 11 | 7 | 18 |

$x^2 = 0.935$
$P < .25$
(one-tailed test)

ALL THREE JUDGES POOLED

| | Judged "Before" | Judged "After" | |
|---|---|---|---|
| Actual "Befores" | 22 | 5 | 27 |
| Actual "Afters" | 9 | 18 | 27 |
| | 31 | 23 | 54 |

$x^2 = 10.905$
$P < .0005$
(one-tailed test)

---

* conservative estimates with corrections for continuity included

### TABLE 5

### Participants' Pre-Program to Post-Program Gains and/or Losses in Various Test-Taking Skills

| Participants | True-False Items (25 Possible) | | | Verbs Used in Tests (25 Possible) | | | Nouns Used in Tests (20 Possible) | | | Adjectives Used in Tests (10 Possible) | | | Multiple-Choice Items (20 Possible) | | | Total Scores (100 Possible) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pre | Post | Gain or Loss | Pre | Post | Gain or Loss | Pre | Post | Gain or Loss | Pre | Post | Gain or Loss | Pre | Post | Gain or Loss | Pre | Post | Gain or Loss |
| K. C. | 10 | 25 | +15 | 22 | 25 | +3 | 14 | 20 | +6 | 10 | 10 | 0 | 16 | 18 | +2 | 72 | 98 | +26 |
| D. D. | 9 | 21 | +12 | 17 | 25 | +8 | 5 | 15 | +10 | 9 | 9 | 0 | 15 | 11 | -3 | 55 | 81 | +26 |
| J. D. | 10 | 17 | +7 | 15 | 24 | +9 | 14 | 20 | +6 | 8 | 10 | +2 | 8 | 14 | +6 | 55 | 85 | +30 |
| M. E. | 17 | 24 | +7 | 21 | 24 | +3 | 16 | 20 | +4 | 9 | 10 | +1 | 15 | 18 | +3 | 78 | 96 | +18 |
| T. L. | 8 | 20 | +12 | 17 | 25 | +8 | 10 | 20 | +10 | 8 | 10 | +2 | 12 | 18 | +6 | 55 | 93 | +38 |
| N. P. | 13 | 16 | +3 | 14 | 24 | +10 | 12 | 16 | +4 | 9 | 9 | 0 | 8 | 16 | +8 | 56 | 81 | +25 |
| E. S. | 18 | 25 | +7 | 21 | 25 | +4 | 13 | 20 | +7 | 10 | 10 | 0 | 13 | 17 | +4 | 75 | 97 | +22 |
| G. S. | 10 | 20 | +10 | 16 | 22 | +6 | 7 | 19 | +12 | 8 | 10 | +2 | 14 | 15 | +1 | 55 | 86 | +31 |
| R. T. | 10 | 17 | +7 | 12 | 23 | +11 | 6 | 19 | +13 | 6 | 10 | +4 | 7 | 15 | +8 | 41 | 84 | +43 |
| Total Group Means | 11.7 | 20.6 | +8.9 | 17.2 | 24.1 | +6.9 | 10.8 | 18.8 | +8.0 | 8.6 | 9.8 | +1.2 | 12.0 | 15.8 | +3.9 | 60.2 | 89.0 | +28.8 |

* In terms of Sign Test analyses, the probabilities of these patterns occurring by chance alone are as follows: True-False Section, Verb Section, Noun Section and Totals, P < .002; Adjective Section, P < .03; Multiple-Choice Section, P < .02 (all one-tailed tests).

construction; and a final section of "multiple-multiples", wherein the correct answer foils were always multiple options. As can be noted in the table, the participants gained very, very well on each of these subsections as well as on the total test.

A final note is presented in Table 6, how participants felt about their continuing needs for help during the coming year. This information is included more because it was seen as a personal point of victory by those involved in the reading, writing, and study skills segment of the total Summer Program than because it's necessarily considered to be a sound, solidly quantifiable collection of data. When asked what they saw as their continuing needs during the year to come, this is what came out. They didn't feel that personal counseling, social counseling, or even money-management tips and registration help were what they wanted, but rather simply more solid help in academic skills. In other words, perhaps EOP programs which focus on these things--directly applicable, teachable academic skills--rather than simply upon personal adjustment and ethnic-identity problems, would be more successful than we've generally observed in the past.

TABLE 6

Participants' Perceived Anticipated
Needs for Help During Coming Year

| Possible Areas of Need Listed | Number of Times Checked | Rank-Ordering of Number of Times Checked |
|---|---|---|
| 1. Library Help | Once | Tie: 7th, 8th |
| 2. Vocabulary | 5 times | 3rd |
| 3. Math Skills | 6 times | 2nd |
| 4. Registration Help | 4 times | Tie: 4th, 5th |
| 5. Social Skills | never | 10th |
| 6. Study Skills | 7 times | 1st |
| 7. Writing Skills | 4 times | Tie: 4th, 5th |
| 8. Personal Counseling | once | Tie: 7th, 8th |
| 9. Money-management Skills | twice | 6th |

NOTE: In a blank provided for "other needs, "chemistry help" was added in one instance; also, the words "very much" were added to "vocabulary" and "study skills" by one participant.

# An Investigative and Descriptive Study and Profile of Entering University of Illinois EOP Students

## (A Preliminary Paper)

by

Grace A. Millas
Parkland College
and
Boyd B. Jackson
University of Illinois

An academically unique component of the University of Illinois is the Educational Opportunity Program for students with disadvantaged socio-economic, disadvantaged educationa, and/or minority backgrounds. These students would normally be unable to pass regular University entrance requirements if it were not for this special program. Although largely composed of black students, the EOP group includes some Latin Americans, Orientals, Caucasian students of deprived backgrounds, and students of other foreign derivations.

The purpose of this research paper is to present an investigative and descriptive study and resultant profile of the 257 EOP students of record who were accepted for admission at the University of Illinois for the 1975-76 school year. This group is composed of 140 women and 117 men. The profile itself will reflect investigation into the following areas: the nature of the students' responses on the Cooperative Reading Test, Form 1A, a national, timed test of vocabulary, reading comprehension, and speed for freshmen and sophomores, which is routinely administered to incoming freshmen at the U. of I.; high school academic performance as indicated by their percentile ranks relative to their own graduating class and to the U. of I. norms for all entering freshmen; the size of their graduating classes as an indicator of school size and location; both ACT Composite and English scores; Verbal scores from the SCAT; units of high school English taken; and personal data which includes parent employment and educational background and marital status.

In essence, the paper will attempt to profile the nature of this group of EOP students by drawing conclusions about the existence of common characteristics in past educational performance and family background and, if possible, to relate these findings to information made available from the University-administered reading test--the Cooperative Reading Test, Form 1A.

The Cooperative Reading test is composed of two parts--a 60-item multiple-choice vocabulary test which is 15 minutes in length and a 60-item multiple-choice comprehension test which has been reduced from 25 to 20 minutes for U of I use. The test provides scores in these two areas as well as one in reading speed. However, no reading rate score in words per minute is given. The Comprehension Test is composed of twelve short passages ranging from approximately 46 to 291 words in length. Subject matter is diverse and includes passages which might be loosely classified as literature excerpts, historical and scientific exposition and description.

Of the 257 EOP students admitted for 1975-76, 165 (64.2%) were administered the Coop Test during the summer, prior to enrollment. One might assume that some of the untested students chose not to attend the University after gaining admission and were, therefore, not a part of the campus testing program, or that they decided to come to the U of I at the last moment and were, therefore, not included in the testing program. One might also conjecture that a large number of the remaining untested students purposefully did not follow through with the University's testing program because of personal feelings of fear and inadequacy or hostility related to test taking as a result of previous negative educational experiences apparently common among disadvantaged students.

For the purpose of this research paper, the 165 students with Coop scores were divided into two groups based upon their decile scores on the Vocabulary Test--those who scored in deciles 0-2 based upon U of I LAS norms and those who scored in the 3rd decile and above. The rationale for dividing the sample in this way is that the University, for its admission purposes, has found that any student scoring at the 3rd decile or above on the Vocabulary Test of the Coop generally will be able to function adequately in regular as opposed to preparatory course work.

It seemed prudent to differentiate between the two groups to determine if there might be any observable differences in the test performance of those EOP students as compared to those in the 0-2 group.

Test data gathered from responses to the Vocabulary Test indicated that students in both groups had little difficulty in completing the items in the fifteen minutes allowed. In the 0-2 group, at least 74% of the students attempted each item with the exception of item 58 (64%). In the 3+ group, a minimum of 83.3% attempted each item. Furthermore, those items which were least often attempted were not necessarily at the end of the test. Rather, students did not respond to various items throughout the test, often omitting items rather than guessing.

An over-all view of the Vocabulary Test responses reveals the following results:

0-2 Decile Group (N--135)

1. Range of raw scores--11-34
2. Average number of correct responses--24

3+ Decile Group (N--30)

1. Range of raw scores--35--49
2. Average number of correct responses--40.2

Results indicate some obvious performance differences between the two groups. In vocabulary, a major determining aspect in a student's ability to read and comprehend effectively, the 3+ group, although having a smaller range of raw scores than the 0-2 group, averaged 16.2 more correct responses than that group. When stated in decile scores based upon U of I LAS norms, the comparison is more clear:

0-2 Decile Group (N--135)

1. Average number of correct responses--24
2. Decile score--0

3+ Decile Group (N--30)

1. Average number of correct responses--40.2
2. Decile score--5

An informal analysis of the test items reveals that of the sixty multiple-choice items, 26 are nouns, 23 are adjectives, and 11 are verbs. Response patterns related to the item's part of speech indicate definite differences between the 0-2 and 3+ group.

0-2 Decile Group (N--135)

1. No items were answered correctly by all students in the group.

| | Percentage of Students Answering Correctly | | | | | |
|---|---|---|---|---|---|---|
| | 100% | 90% or more | 80% or more | 70% or more | 60% or more | 50% or more |
| Total No. of Items | 0 | 2 | 9 | 13 | 16 | 23 |

2. No test items beyond item number 35 were answered correctly by 50% or more of the students in this group. If one considers only the first 35 test items, then, there were 18 possible correct noun items, 9 possible adjective items, and 8 verb items. Fifty percent or more of the students responded to the following number of items classified by part of speech:

Vocabulary Test Items 1-35

| | NOUNS | VERBS | ADJECTIVES |
|---|---|---|---|
| Number of Items Answered Correctly by 50% of More of the Students | 14 | 3 | 6 |
| Percentage of Total Possible Responses Categorized by Part of Speech | 77.7% | 37.5% | 6.6% |

## 3+ Decile Group (N--30)

1. 100% of this group responded correctly to some test items.

Percentage of Students Answering Correctly

| | 100% | 90% or more | 80% or more | 70% or more | 60% or more | 50% or more |
|---|---|---|---|---|---|---|
| Total No. of Items | 8 | 20 | 27 | 35 | 37 | 41 |

2. Because almost the entire test was answered with a high percentage of correct responses from beginning to end, all 60 items may be considered in terms of the parts of speech of the items answered correctly by this group.

Vocabulary Test Items 1-60

| | NOUNS | VERBS | ADJECTIVES |
|---|---|---|---|
| Number of Items Answered Correctly by 50% or More of the Students | 19 | 9 | 13 |
| Total Possible Responses | 26 | 11 | 23 |
| Percentage of Total Possible Responses Categorized by Part of Speech | 73% | 81.8% | 56.5% |

In summary, not only did the 3+ group surpass the 0-2 group in the number of test items correctly answered, but also it appears that their language development surpasses that of the 0-2 group in that they attained a higher percentage of correct verb responses, a more linguistically sophisticated ability, while maintaining a high percentage of both noun and adjective correct responses.

Responses to the Comprehension Test also show some basic differences in the two groups' performances. First, in attempts made on the comprehension questions, the groups performed as follows:

| 0-2 Decile Group (N--135) | 3+ Decile Group (N--30) |
|---|---|
| 1. Range of raw scores--13-60 | 1. Range of raw scores--24-60 |
| 2. Average No. of attempts--31.65 | 2. Average No. of attempts--36.86 |

A comparison of the lower ends of each range shows that the 3+ group tended to move more quickly through the items. Also, one may assume that because 7 of these students ranked at the 6th decile or above on the Vocabulary Test, that they might have read more quickly than the other students in general, and, perhaps, guessed at a few final items as the time limit drew to an end. This seems plausible considering the fact that only 4 items in the last 14 were answered correctly by anyone, and 3 of the 4 correct responses were the result of one student's efforts.

When the average number of attempts by each group are studied, one sees that the 3+ group surpassed the 0-2 group by an average of 5.2 questions. Using U of I LAS norms for items attempted, the performances of the two groups appear as follows:

0-2 Decile Group (N--135)

1. Ave. number of attempts--31.6
2. U of I decile score--0 (.4 raw score points from Decile 1)

3+ Decile Group (N--30)

1. Ave. number of attempts--36.8
2. U of I decile score--2

The relative closeness of the decile scores may be the result of the 3+ group's more careful consideration of responses and the 0-2 group's growing frustration and possible guessing at items as the time limit ended. This seems likely when correct responses to the Comprehension Test are considered.

0-2 Decile Group (N--135)

1. Range of correct responses--8--38
2. Ave. number of items correctly answered--18.65
3. Percentage of the ave. number of attempts answered correctly--58.9%

3+ Decile Group (--30)

1. Range of correct responses--17-41
2. Ave. number of items correctly answered--26.53
3. Percentage of the ave. number of attempts answered correctly--71.9%

Thus, the 3+ group showed a higher percentage of correct responses than did the 0-2 group when comparing the average number of attempts on comprehension items made by each of the two groups. It should be kept in mind, however, that as a group, the 3+ group was unable to answer any item correctly beyond item 37 with 50% or more of the students responding correctly. The 0-2 group did not answer any item correctly at a rate of 50% or higher beyond item 27. In other words, few members of either group were able to complete the test. In the 0-2 group, less than 50% of the students attempted items 38 through 60.

For the sake of further comparison between the two groups on the comprehension portion of the test, one may analyze the responses of both groups on the first 22 items which relate to five reading passages. This group of questions was chosen because at least 80% of each group attempted each of these items. One may assume, then, that time constraints played little, if any, part in the students' ability to respond to the first third of the test. Furthermore, this set of questions contains an equal number of literal and inferential comprehension questions, so that one may attempt to determine whether the two groups respond differently to these two types of questions. Group responses to these items were as follows:

| 0-2 Decile Group (N--133) | 3+ Decile Group (N--30) |
|---|---|
| 1. Literal comprehension items in which 50% or more of the students answered correctly--7 | 1. Literal comprehension items in which 50% or more of the students answered correctly--11 |
| 2. Inferential comprehension items in which 50% or more of the students answered correctly--6 | 2. Inferential comprehension items in which 50% or more of the students answered correctly--9 |
| 3. Percentage of total (11) literal comprehension items answered correctly by 50% or more--63.3% | 3. Percentage of total (11) literal comprehension items answered correctly by 50% or more--100% |
| 4. Percentage of total (11) inferential comprehension items answered correctly by 50% or more--54.4% | 4. Percentage of total (11) inferential comprehension items answered correctly by 50% or more--81.8% |

Both groups responded to literal comprehension questions with a higher level of accuracy than to inferential questions. However, the 3+ group responded correctly to both types of questions at an obviously higher level of accuracy than did the 0-2 group. All of the 3+ students answered all of the literal information questions correctly, and over 50% of them were able to respond correctly to over 81% of the inferential questions in that set of 22 items. One may conclude, then, that a basic difference in these two groups of students relative to answering literal and inferential comprehension questions, is that the 3+ group seems to be more proficient and sophisticated in answering both types of questions than are those in the 0-2 group.

In addition to reading performance, the high school academic and testing performance scores and graduating class size information are additional components to be included in the EOP student profile. Class size information for the 234 students whose background information was made available to the

U of I is as follows according to graduating class figures:

| Class Size | Number of Students | Percentage of 234 Students | Percentage of Total N (257) |
|---|---|---|---|
| 0-100 | 11 | 4.7% | 4.2% |
| 101-300 | 58 | 24.7% | 22.5% |
| 301-500 | 45 | 19.2% | 17.5% |
| 501-999 | 104 | 44.4% | 40.4% |
| 1000+ | 13 | 5.5% | 5.0% |
| Not Given | 3 | 1.2% | 10.1% |

The data suggests that almost half of the students come from large inner-city schools located, one may assume, in Chicago, Peoria, and East St. Louis--the areas from which the University draws heavily for admission into the EOP program. Another group of almost 44% come from suburban schools, and a very small percentage--4.7%--are students from disadvantaged rural areas.

An interesting fact to note is that when high school ranks in graduating classes are expressed in deciles and compared to high school ranks using U of I deciles, although 84.3% of the students ranked in the 5th decile or above according to their own class populations (almost 40% being in the 9th deciles of their classes), only 58.9% of the students ranked at the 5th decile or above according to U of I norms. Furthermore, only 12.3% of these students ranked at the 9th decile when University norms were used. Thus, a substantial number of students were below the 5th decile rank, and almost 16% were ranked as being in the 0 decile according to University norms.

High School Decile Rank (N--234)

| Decile Scores | No. of Students | Percentage of Sample (N-234) | Percentage of Total (N--257) |
|---|---|---|---|
| 0 | 8 | 3.4% | 3.1% |
| 1 | 6 | 2.5% | 2.3% |
| 2 | 7 | 2.9% | 2.7% |
| 3 | 6 | 2.5% | 2.3% |
| 4 | 7 | 2.9% | 2.7% |
| 5 | 17 | 7.6% | 6.6% |
| 6 | 23 | 9.8% | 8.9% |
| 7 | 27 | 11.5% | 10.5% |
| 8 | 39 | 16.6% | 15.1% |
| 9 | 92 | 39.3% | 35.7% |
| Not Given | 2 | .8% | 9.7% (N--25) |

High School Decile Rank--U of I Norms
(N--234)

| Decile Scores | No. of Students | Percentage of Sample (N--234) | Percentage of Total (N--257) |
|---|---|---|---|
| 0 | 37 | 15.8% | 14.3% |
| 1 | 20 | 8.5% | 7.7% |
| 2 | 21 | 8.9% | 8.1% |
| 3 | 17 | 7.2% | 6.6% |
| 4 | 17 | 7.2% | 6.6% |
| 5 | 16 | 6.8% | 6.2% |
| 6 | 17 | 7.2% | 6.6% |
| 7 | 40 | 17.0% | 15.5% |
| 8 | 18 | 7.6% | 7.0% |
| 9 | 29 | 12.3% | 11.2% |
| Not Given | 2 | .8% | 9.7% (N--25) |

When one looks at this and other test data collected about these students, one may conclude that in a vast majority of cases, high school grades are highly inflated.

An analysis of the EOP English and Composite scores on the ACT (American College Test), which is basically an achievement test widely used for admission procedures, indicates a wide range of raw scores. (In instances in which ACT scores are not available, it should be noted that some students were not required by the University to take the ACT because of their high rank within their graduating classes.) The following tables indicate the range and distribution of the English and Composite scores.

ACT ENGLISH SCORES (N--234)

(Range of Raw Scores--5-30)

| Raw Score | No. of Students | Percentage of Students N--234 |
|---|---|---|
| 5 | 1 | .4% |
| 6 | 1 | .4% |
| 7 | 3 | 1.2% |
| 8 | 3 | 1.2% |
| 9 | 8 | 3.4% |
| 10 | 4 | 1.7% |
| 11 | 13 | 5.5% |
| 12 | 12 | 5.1% |
| 13 | 12 | 5.1% |
| 14 | 8 | 3.4% |
| 15 | 16 | 6.8% |
| 16 | 12 | 5.1% |
| 17 | 23 | 9.8% |
| 18 | 27 | 11.5% |
| 19 | 19 | 8.1% |
| 20 | 18 | 7.6% |
| 21 | 17 | 7.2% |
| 22 | 17 | 7.2% |
| 23 | 7 | 2.9% |
| 24 | 3 | 1.2% |
| 25 | 2 | .8% |

CONTINUED

| Raw Score | No. of Students | Percentage of Students N--234 |
|---|---|---|
| 26 | 1 | .4% |
| 27 | 4 | 1.7% |
| 28 | 1 | .4% |
| 29 | 0 | 0.0% |
| 30 | 1 | .4% |
| Not Given | 1 | .4% |

Mean Raw Score for 233 Students Having Scores--16.65

ACT COMPOSITE SCORES (N--233)

(Range of Raw Scores--9-30)

| Raw Score | No. of Students | Percentage of Students (N--233) |
|---|---|---|
| 9 | 1 | .4% |
| 10 | 8 | 3.4% |
| 11 | 7 | 3.0% |
| 12 | 12 | 5.1% |
| 13 | 9 | 3.8% |
| 14 | 16 | 6.8% |
| 15 | 22 | 9.4% |
| 16 | 22 | 9.4% |
| 17 | 23 | 9.8% |
| 18 | 16 | 6.8% |
| 19 | 23 | 9.8% |
| 20 | 12 | 5.1% |
| 21 | 13 | 5.5% |
| 22 | 10 | 4.2% |
| 23 | 4 | 1.7% |
| 24 | 9 | 3.8% |
| 25 | 7 | 3.0% |
| 26 | 10 | 4.2% |

Continued

| Raw Score | No. of Students | Percentage of Students (N--233) |
|---|---|---|
| 27 | 3 | 1.2% |
| 28 | 1 | .4% |
| 29 | 3 | 1.2% |
| 30 | 2 | .8% |

Mean Raw Score for 233 Students Having Scores--16.65

Further clarification of the meaning of these raw scores can be made by relating them to decile rank using U of I LAS norms

ACT English Scores

| U of I Decile Rank | No. of Students | Percentage of N-233 | Percentage of Total Sample (N--257) |
|---|---|---|---|
| 0 | 143 | 61.3% | 55.6% |
| 1 | 37 | 15.8% | 14.3% |
| 2 | 17 | 7.2% | 6.6% |
| 3 | 17 | 7.2% | 6.6% |
| 4 | 7 | 3.0% | 2.7% |
| 5-9 | 12 | 5.1% | 4.6% |
| | | | Not Given 9.3% (N--24) |

ACT Composite Scores

| U of I Decile Rank | No. of Students | Percentage of N-233 | Percentage of Total Sample (N--257) |
|---|---|---|---|
| 0 | 171 | 73.3% | 66.5% |
| 1 | 27 | 11.5% | 10.5% |
| 2 | 9 | 3.8% | 3.5% |
| 3 | 7 | 3.0% | 2.7% |
| 4 | 10 | 4.2% | 3.8% |
| 5-9 | 9 | 3.8% | 3.5% |
| | | | Not Given 9.3% (N--24) |

A comparison of EOP Composite and English ACT scores in deciles using U of I norms shows their achievement levels to be far below those of regular U of I freshmen. Thus, although their past high school grades may have been high enough to place them in the top deciles in class rank and, thus, relatively high in U of I deciles, their ACT scores indicate serious deficiencies in past learning achievement in English and reading skills. This fact seems even more significant when related to the fact that over 95% of the students took 4 or more high school units of English credit--that is, the equivalent of 4 full years or more of English-related work.

H.S. English Credits Earned

| Units | No. of Students | Percentage of Students N--230 |
|---|---|---|
| 2 | 1 | .4% |
| 3 | 8 | 3.4% |
| 4 | 188 | 81.7% |
| 5 | 28 | 12.0% |
| 6 | 5 | 2.1% |

Finally, IOP SCAT (School and College Ability Test) Verbal scores, which are frequently used for all students in a diagnostic way prior to selection of a major field after admission, show exceptionally low potential when related to U of I LAS norms. SCAT scores were available for 210 students or 81.7% of the total sample of 257 students.

SCAT VERBAL SCORES--(N--210)

| U of I Decile Rank | No. of Students | Percentage of N--210 | Percentage of Total Sample--N--257 |
|---|---|---|---|
| 0 | 78 | 37.1% | 30.3% |
| 1 | 50 | 23.8% | 19.4% |
| 2 | 22 | 10.4% | 8.5% |
| 3 | 17 | 8.0% | 6.6% |
| 4 | 17 | 8.0% | 6.6% |
| 5 | 5 | 2.3% | 1.9% |
| 6 | 7 | 3.3% | 2.3% |
| 7 | 5 | 2.3% | 1.9% |
| 8 | 6 | 2.8% | 2.3% |
| 9 | 3 | 1.4% | 1.1% |
| Not Given | 24 | 10.2% | 18.2% (N-47) |

Over one-third of the group tested scored at the 0 decile when compared to U of I norms. Eighty-seven percent scored below the 5th decile, which is considered to be an average, or mid-range score. Only 1.4% were ranked in the 9th decile. Thus, again test scores do not seem to relate closely to high school ranks. Obviously, such students should be channeled into preparatory courses rather than regular course work.

The final aspect of investigation of the EOP group involved personal data concerning parental occupations, educational backgrounds, and marital status. Of the entire sample of 257 students, 82.8% or 213 students had filled out Form #3 cards which ask for this and other information to be utilized by the staff of the U of I Psychological and Counseling Center for potential interviews with incoming freshmen. In many instances, information was incomplete. For instance, in families in which parents were indicated to be separated or divorced, many students (29.3%) failed to put down any information concerning their fathers. This in itself may say something about the nature of these student's backgrounds. In such cases, it may have been that the students were living with their mothers and, consequently, had never know their fathers well, or at all, for that matter.

There may have been an underlying hostility toward their fathers, particularly if they had abandoned their families. In some instances, students may have felt that their fathers were no longer a real part of the families, and, thus, saw no reason to give information about them.

It may also have been true that certain students felt that questions about their parents were an invasion of privacy. Finally, in a small percentage of cases, no information was given because the father had died.

The following parental information was obtained:

| Father's Occupation---N--213 | | | |
|---|---|---|---|
| Job Category | No. of Students | Percentage of Sample (N--213) | Percentage of Total Sample (N--257) |
| Professional | 30 | 14.0% | 11.6% |
| Skilled | 64 | 30.0% | 24.9% |
| Laborer | 28 | 13.1% | 10.8% |
| Deceased | 16 | 7.5% | 6.2% |
| Not Given | 75 | 35.2% | 46.3% |
| Mother's Occupation---N--213 | | | |
| Professional | 36 | 16.9% | 14.0% |
| Skilled | 61 | 28.6% | 23.7% |
| Laborer | 20 | 9.3% | 7.7% |
| Homemaker | 59 | 27.6% | 22.9% |
| Deceased | 8 | 3.7% | 3.1% |
| Not Given | 29 | 13.6% | 28.4% (N--73) |

Father's Education--N--213

| Amount | No. of Students | Percentage of Sample (N--213) | Percentage of Total Sample (N--257) |
|---|---|---|---|
| 1-6 | 7 | 3.2% | 2.7% |
| 7-9 | 19 | 8.9% | 7.3% |
| 10-12 | 70 | 32.8% | 27.2% |
| 13-14 | 10 | 4.6% | 3.8% |
| B.S. | 17 | 7.9% | 6.6% |
| B.S.+ | 14 | 6.5% | 5.4% |
| Deceased | 13 | 6.1% | 5.0% |
| Not Given | 63 | 29.5% | 46.3% (N--119) |

Mother's Education--N--213

| Amount | No. of Students | Percentage of Sample (N--213) | Percentage of Total Sample (N--257) |
|---|---|---|---|
| 1-6 | 5 | 2.3% | 1.9% |
| 7-9 | 11 | 5.1% | 4.2% |
| 10-12 | 89 | 41.7% | 34.6% |
| 13-14 | 30 | 14.0% | 11.6% |
| B.S. | 29 | 13.6% | 11.2% |
| B.S.+ | 11 | 5.6% | 4.2% |
| Deceased | 5 | 2.3% | 1.9% |
| Not Given | 33 | 15.4% | 29.9% (N--77) |

Parent Marital Status---N--213

| Status | No. of Students | Percentage of Sample (N--213) | Percentage of Total Sample (N--257) |
|---|---|---|---|
| Together | 87 | 40.8% | 33.8% |
| Separated | 24 | 11.2% | 9.3% |
| Divorced | 22 | 10.3% | 8.5% |
| Deceased Member | 21 | 9.8% | 8.1% |
| Not Given | 59 | 27.6% | 40.0% (N--103) |

The data concerning parental information indicates several interesting points about the family backgrounds of the EOP students as well as about the students themselves. First, students seem more reluctant or unable to give information about their fathers than about their mothers. In questions concerning both occupations and education, twice as many "not given" responses were indicated concerning fathers. As stated previously, this may be due, in part, to hostility or a sense of total isolation from the father. Data for parental marital status indicates that almost one-third (31.4%) of the sample group of 213 or over one-fourth (26.0%) of the entire sample of 257 indicated broken homes due to divorce, separation, or death.

Information related to parent occupations indicates a slightly higher percentage of mothers than fathers involved in upper-level professional occupations--16.9% as compared to 14.0%. When those in skilled and professional occupations are combined, mothers are seen to be involved at about the same rate as the fathers are --45.5% as compared to 44.1% for the fathers. Slightly more fathers (13.1%) than mothers (9.3%) were described as laborers outside the home. Almost 55% of the mothers in the group or 45.5% of the mothers in the total sample of 257 work outside the home--a fact which indicates that not only are a significant number of homes broken ones, but also that it is likely that in many cases, the mother works outside the home even if the parents are together. Thus, the mother, with whom students seem to identify most strongly, may not be able to provide as much guidance, particularly in academic matters, as may be needed by these students.

Responses concerning parent education indicate that over 12% of the fathers have less than 10 years of education as opposed to 7.5% of the mothers. Although a high percentage of both mothers and fathers had schooling between 10 and 12 years in length

(41.7% and 32.8% respectively), the most obvious difference in the education of the parents is in the amount of education beyond high school. Of the fathers, 19.2% had at least some college training. Almost 33% of the mothers had some college training. The percentage of parents with a B.S. degree or more and the percentage of those in professional occupations has a close relationship between the two sets of figures--14.5% of the fathers have college degrees while 14.0% are in professional occupations. Of the mothers, 18.7% have college degrees while 14.0% are in professional occupations. Of the mothers, 18.7% have college degrees while 16.9% are in professional occupations.

Thus, a study of these responses indicates that EOP student families are ones in which the mother tends to be more highly educated than the father although both parents are most likely to have 10-12 years of schooling, and in which over half of the mothers work, with a higher number of women than men being placed in skilled or professional categories. The trends might, however, alter significantly if the number of "not given" responses concerning the fathers were made comparable to those "not given" responses for the mothers, or, obviously, if the data were complete on both mothers and fathers.

In conclusion, it would appear that sufficient data has been investigated to render a relatively accurate descriptive profile of the 257 EOP students admitted to the University of

Illinois for the 1975-76 school year. Although conclusions concerning the nature of this group have been stated throughout the paper, the following summary statements will be included to make the characterization of this group more clear.

First, the EOP group, admitted as special students by waiver of regular entrance requirements, exhibit obvious deficiencies in both the vocabulary and comprehension aspects of reading. Although those students ranking at the 3rd decile or above on the Coop Reading Test, Form 1A, tend to be linguistically more sophisticated in vocabulary and the ability to deal with inferential types of questions than the 0-2 decile group, most students in the sample scored at the 0 decile on Vocabulary and Comprehension with few students exceeding the 5th decile on any one test. One of the most obvious manifestations of their reading difficulties was evidenced in their inability to finish the test items in the time allowed. This was clearly shown with regard to the Comprehension Test items, but not in the Vocabulary Test.

Second, half of the students graduated from large, inner city high schools, and almost seventy percent were members of classes ranging beyond 300 students in size. These facts may indicate that many of the students were educated in schools which did not provide quality education. It might appear likely that over-crowding in classrooms of these large schools may have been a serious handicap to the students from the inner cities of

Chicago, Peoria, and East St. Louis.

Third, over seventy-five percent of the students were top students within their graduating classes, and thus ranked above the 5th decile of their graduating classes. However, other test data suggests that in many instances, their grades were greatly inflated. ACT English and Composite Scores as well as SCAT Verbal Scores using University of Illinois LAS norms show that over sixty percent of the students for whom there were test scores ranked at the 0 decile on each of those tests--a seemingly clear indication of grade inflation or lack of competition at the high school level. A further contradiction in the quality of the students' apparent educational preparation as evidenced by high school grades and actual test performances in reading and English-related skills, is the fact that almost 95% of the students had completed a minimum of four high school units of English.

Finally, personal data concerning parents of EOP students indicates that these students tend to relate most closely to their mothers, often failing to indicate any knowledge about their fathers. This seems to occur particularly often in broken homes, which characterize at least one-third of the EOP homes. Mothers in these homes tend to be more highly educated than fathers with over half of the mothers working outside the home.

The nature of this group of students necessitates some form of compensatory education which will enable them to become better equipped to meet the academic and social demands of the University and society. Acceptance of these students into the University setting could be better based on the successful completion of a year of preparatory courses.

# QUESTIONS BEFORE, AFTER OR ANYWHERE?

by

J. Jaap Tuinman
and
Emily Menzel
Indiana University

Those of us who are active teachers tend to share a cautious optimism in respect to the contribution educational research can make in terms of improving our instructional practices. This is a healthy optimism - if it were to disappear the incentive for such research would likely die soon afterwards. Yet, our faith in research and our expectations regarding its pragmatic benefits have been tempered by a history of a too naive acceptance of "what research says" and an increasing realization that most practical instructional questions are of an unforeseen complexity as research issues. In many ways this complexity appears to be a direct function of the age of the students we teach; the older the student, the more complex the issues. This is not so surprising. At the college and adult level for instance, we deal with persons who have longer intellectual histories and more developed personality structures than their counterparts in first grade classrooms. For one, this increases the number of variables we must take under consideration when we attempt to analyze aspects of our students' performance in our instructional programs, whether they be remedial or developmental. Furthermore, however, these older students' perceptions of how and why they fail or are successful on certain tasks have hardened. Thus, the design of instructional interventions aimed at changing some typical way of approaching a learning task is further complicated.

If all of this is true, we must realize that improved practices at the level of College and Adult reading are not likely to occur by leaps and bounds. In a delightful speech at an earlier NCRA conference, Dr. Francis Robinson illustrates this point well, drawing on examples from his lifetime involvement in this field (Robinson, 1971). In view of the enormous complexity of interactions of cognitive and affective variables on the students' part and instructional variables typical of most college reading programs, it is also reasonable to assume that many piece-meal improvements in practice will flow directly from being engaged in instruction in such programs, rather than from application of basic research results. Nevertheless, as a profession we have a clear responsibility to analyze the nature of such improvements in a systematic fashion. Moreover, it is reasonable to assume that some of the research done outside of our study skill centers does apply to activities going on inside of them.

As much of our work focuses on getting students to be more efficient in studying college level textual material, it is not surprising that for some time now work done in the general area of mathemagenics has been of some interest. After all, whether we favor

SQ3R as the mainstay of our "helping approach" or such variants as Miller's SQ4R, Paul's OK4R or the 4 T's approach described by Johnson (1971), questions and when to ask them have been central to our efforts to make our students more efficient readers.

## About Questions

Most of the current research on questions is done, rightly or wrongly under the flag of mathemagenics. Weaver and Kingston (1967) argued rather early that both reading improvement manuals and general textbooks should take into account the research generated by Rothkopf and his associates. They note that "Reading improvement texts could be easily moved toward formats indicated by newer research. To move textbooks in this direction will be a much more formidable task (p. 143)." According to these authors the most defensible practice would be to put questions of a specific nature before the selection to be read and to provide the students with feedback. On the other hand, general questions, placed after the reading material tend to maintain attentive behavior over long periods of time even when knowledge of answers is not provided.

Since Weaver and Kingston's article, there has been an outpouring of "mathemagenic" studies. Virtually every generalization about question placement, the effect of question types and spacing of questions has been challenged in one study or another.

Rothkopf's studies have been criticized widely because of inadequate statistical analyses (Ladas, 1973) and on the basis of alleged theoretical weaknesses (Carver, 1972; but see Rothkopf's defense, 1974) and Bull (1973). Basically, the following critical issues have been raised in regard to the body of mathemagenic research as it pertains to the function of adjunct or embedded questions. One, statistical analyses comparing various treatment groups in the earlier Rothkopf studies are not defensible. Two, many studies trying to replicate early Rothkopf and Frase results are inadequate because no precautions were taken to assess the effect of exposure to the text questions per se on the criterion test. Three, a large body of adjunct questioning research has been performed using only very few passages. Replications of basic studies quite often involve originally used texts. Four, no systematic attempts have been made, typically, to ascertain the degree to which the criterion test questions were under the control of the passages. If, for instance, criterion test questions were under the control of the passages. If, for instance, criterion test questions could have been answered with a great deal of success without reading the passages, then it seems safe to assume that the possible effect of treatments on the passage is reduced substantially. Five, with a few exceptions, no attempt has been made to explain and/or control the generation of the question types used in adjunct question studies. This means that contradictory results from one study to another, may be a function from different strategies in the generation of questions. Six, mathemagenic studies typically involve only one passage. If more than one passage is used, statistical differences between the passages are rarely calculated. Yet, it is quite possible that conflicting results among studies are a function of unique characteristics of the passages involved. For this reason it is imperative that the interaction between passages and mathemagenic variables studied in particular research projects be detected and calculated. This issue relates to the so-called generalizability question raised by Coleman (1973).

Yet, in spite of these criticisms pertaining to individual studies, there seem to be definite trends in the mathemagenic literature well worth taking into account. Evidence for the following generalizations must be found by considering the conglomerate of studies available and the trends in the results of these. As indicated, it is virtually always possible to challenge a particular generalization on the basis of individual research reports.

Considering these caveats, we would argue that questions after a particular prose segment are more beneficial than questions before. This is particularly true if the questions in the text are repeated on the criterion test. The magnitude of experimental results due to adjunct questions is much larger for the so-called relevant (repeated) questions than for incidental questions. (The latter are questions which are not used as adjunct questions in the text but which do appear in the criterion post test.) It seems, therefore, that the instructor is best off asking questions on the test on important information. Those questions likely also merit inclusion on the post test.

Does it matter how often questions should be asked in the text? The evidence is a bit muddy, but it appears that by and large adjunct questions work best if they are placed shortly after the information to which they pertain. Therefore, the content richness of the text should determine the frequency of the adjunct questions work best if they are placed shortly after the information to which they pertain. Therefore, the content richness of the text should determine the frequency of the adjunct questions.

It is also of importance to note for practitioners who object to the relatively simplistic nature of most questions used in mathemagenic research that the strategies recommended above probably will work even better with more complex questions. There is some evidence that the latter, because they require more intensive processing of the text are better adjunct questions than their more simple, literal counterparts.

Another practical point to keep in mind when designing or altering materials for students is that short-answer questions, which require an overt response (with the student receiving some sort of feedback) in general function best as mathemagenic devices.

Finally, it must be kept in mind that in Reading and Study Skills Centers motivation of students and its manipulation play a large role. Though it has been shown that motivation to answer mathemagenic questions help their functioning, raising the general motivational level of students tends to reduce differences between groups that do and that do not have embedded questions in the texts they study. Therefore, it may be expected that the beneficial effects of inserted questions are stronger under normal study conditions than when working with the student in a lightly charged setting such as a Skills Center.

## The Real Issue

Though we have detailed some of the positive results of mathemagenics research for practical worth with inefficient readers, we must stress that there is more to mathemagenics than research on questioning. The issue of adjunct question placement is a secondary issue. This is so not only because, even when a particular manipulation was successful, the amount of variance involved was small, but it is also secondary because adjunct questions are mere exemplars of controlling devices. The notion of focusing on these controlling devices itself, is of prime importance. As Rothkopf (1970) indicates, there is a limit to the benefit one can receive from concentrating on the development of "optimally effective" materials. It is much more important to ask which manipulations, devices, activities in the instructional environment will increase learning or "maintain effective mathemagenic activities."

Clearly, in college and adult reading learning from text is one of our major concerns. This just happens to be the one instructional setting selected by Rothkopf, largely for illustrative reasons. Let's adopt his breakdown of mathemagenic behaviors into three classes and concentrate particularly on those activities in class 3: maintaining effective inspection behaviors. The question is: How do we maintain effective inspection behaviors once the student's eye meets the print? Is there anything else but adjunct questions that can be of help? In a couple of very interesting articles, McConkie, et al. (1974a, 1974b) take up this question. They investigated in two related experiments the possibility of manipulating reading strategies through altering the form and type of pay-off structures. Among the variables studied were existence of a pay-off structure, type of pay-off structure (emphasis on speed or concentration), specificity of pay-off conditions and presence or absence of feedback. The authors conclude that "the existence of a pay-off structure had little effect by itself, but the form of the structure produced significant changes in reading rate" (this effect did not show up in comprehension, incidentally).

Clearly, McConkie et al. are dealing here with other kinds of mathemagenic controlling devices in function comparable to adjunct questions.

Yet, armchair analysis of typical learning tasks and instructional situations encountered by the college student whom we want to make a more proficient student, leaves us with the distinct feeling that, though this type of research is very valuable indeed, it needs to be complemented by a focus on factors not as closely linked to the act of reading itself.

For a moment consider the problem of Steve, who on the second day of class has been assigned Chapter I of a psychology text. The assignment is typical: "Study this chapter; you are responsible for its content." In order to be a successful student, Steve not only must master (in some sense of the word) the content of Chapter I, he also must be successful in demonstrating this mastery.

One could conceivably argue that we are mixing up two objectives: (a) mastery of content of the chapter and (b) skill in taking exams. This point of view, however, ignores the fact that, though there may or may not exist "general" exam taking skills (some of which may be teachable and others not), the anticipated nature of the form in which Steve must demonstrate his mastery may very well influence the way he reads, studies the chapter (Steve's criterion for "knowing enough", for instance, may be different if he prepares for a multiple choice exam as opposed to an essay exam).

If this interaction between mastery and its demonstration indeed exists (as an element of our definition of a proficient student) then the issue of which kinds of manipulation on the teachers' part constitute effective ways of controlling mathemagenic behaviors becomes a very complex one.

The information transmitted in a passage takes on at least three forms: as intended by the author; as interpreted and stored by the student; as viewed by the instructor. The student's concern is not as much with psyching out the author as with psyching out the instructor. Being successful at that task may, for some students, in the case of some instructors, be a prerequisite for successful demonstration of "knowledge" on exams. Which variables enter into this game? How can we influence the student to read and study material so that he maximizes the chances of success on the final task: the exam?

At this point it is important to call attention to the difference between pay-off structure and adjunct questions as mathemagenic controlling devices; a distinction deliberately overlooked earlier. Pay-off structures are not necessarily text specific (except probably where bottom and ceiling effects operate). Adjunct questions, on the other hand, are text specific, whether they are generated by the student or by the instructor or author. Everything being equal, it appears that the discovery of mathemagenic controls that are not material specific has primary importance, from the point of efficiency. The question, therefore, becomes: What kind of factors can be manipulated which ensure maximum efficiency (in the qualitative sense) in input of study materials.

In this respect Johnson's description of the Minnesota Study Skills Program (1971) provides a very adequate starting place for generating hypotheses. The idea is not to validate empirically the adequacy of the 4T program. That may be of interest, but it is far more important to discover how, for instance, knowledge of exam techniques modifies the way a passage is read and stored; if indeed it does. Many more of this sort of questions can be generated from her program description.

It appears that qualitatively adequate inspection behaviors can be maintained by manipulation of these sort of controls: On the text (e.g., adjunct question, variations in print type, etc.), on the environment (e.g., pay-off structure) and on the person (e.g., breathing techniques).

Careful and attentive analysis of on-going learning activities in Reading and Study Skill Centers, by those who work there can generate valuable hypotheses to be examined in a broader program of mathemagenic research.

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# ORDER IN DISCOURSE AND READING EFFICIENCY

by

John C. Schafer

The University of Michigan

## Writing Process Model

In our teaching of writing at the Reading and Learning Skills Center of The University of Michigan, other members of the Writer's Workshop staff and I have found it useful to make it very clear to students what we mean when we say a paper should be organized. Exhortations to "Organize your thoughts!" or "Be logical!" have not proven sufficient. We have tried to be more explicit by writing self-instructional materials in which a distinction is made between three kinds of order: natural, rhetorical, and textual.

Textual order is that in which things or events are presented in the actual words on the page. Rhetorical order is the order in which nuclear things or events are arranged in a discourse. Nuclear here means most emphasized. Natural order is that in which things or events occur in the real world.

Some examples should make things clearer.

This kid punched John,
and so John punched him back.
Just then the teacher came,
and she broke it up.

The textural order of the above discourse is a sequence consisting of first John getting punched, then John punching the kid, then the arrival of the teacher, and then her breaking up of the fight. The rhetorical order consists of first the exchange of punches and then the teacher's intervention to stop the fight. Note that in determining the rhetorical order we consider what are the nuclear things or events in the context of the total discourse. One can also distinguish between nuclear and marginal material within the context of individual sentences but this adds more complexity than we wish to deal with here. In determining the rhetorical order, we are only interested in the main actions in the total discourse and the order in which they are presented. In the above discourse the natural order is the same as the textual and rhetorical order: the narrator mentions all the events, both nuclear and marginal, in the order they actually occurred (assuming this is a true story) in the world.

But observe that the following account of the same events is also possible:

> The teacher came in just
> in time to break up a fight.
> John punched this kid back
> because he punched John first.

Notice that in this second version of the rhetorical order, the order of the nuclear events is different from the natural order. Above, the teacher's breaking up of the fight is mentioned first. Since the rhetorical order is different from the natural order, the textual order is also not completely congruent with the natural order. In this version, John's punching of the kid is mentioned before the kid's punching of John, just the reverse of the natural order. In the real world causes precede effects, not vice versa.

Why do narrators reshuffle events? Why do they sometimes make the rhetorical order different from the natural order? Usually, because they feel making the rhetorical order isomorphic with the natural order is sometimes not "right" given their particular writing purpose and audience. Using the example above, a narrator might choose the second version over the first to emphasize the teacher's intervention and downplay the scuffle that prompted it. Speech and rhetoric teachers do not all agree, of course, as to whether the anti-climatic order is the most persuasive, but perhaps the narrator of the second version did. Or perhaps he chose to begin his little story in media res because he wanted to pique the reader's curiosity or to convey a sense of immediacy. For other purposes and other audiences the same narrator might decide against such reshuffling.

Admittedly these distinctions are not easily made, but it is my view, that it is necessary to help students make them.

Some instructional materials designed to teach organization that ignore these distinctions end up confusing both teacher and student. Consider the following exercise, for example, which appears in Mary Lawrence's Writing as a Thinking Process. The directions are to "Arrange the following information about immunization in chronological order." The "information" includes seven sentences in random order. In considering which sentence should go first it is relatively easy to narrow the field to the following two sentences:

-The first vaccine, that against smallpox, was discovered in England by Jenner in 1796.

-Prior to the smallpox vaccine as many as 80,000 people died each year in England from smallpox.

But which of these should go first? The student cannot order these unless he knows whether by "chronological order" the teacher means natural or textual order.

My examples above are mini-narratives but one can discuss other discourses besides narratives using this approach.

College students are expected to come up with fifteen page term papers not two sentence anecdotes. How do we proceed with students faced with the task of writing a major paper? In teaching organization at the Writer's Workshop we concentrate on the relationship between natural and rhetorical order. We point out to the student that there are genre constraints on order in discourse. In historical accounts and procedural discourses, it is customary to make the rhetorical order fairly isomorphic with the natural order. One usually begins an American history text, for example, with Columbus' discovery of America and then presses on toward the present. In newspaper stories, however, it is customary to take the most important event, what we call a nuclear event, and make it the "lead" regardless of when that event occurred in the natural order. In epics it is customary to begin, in media res with a key action in the story and then go back and pick up the earlier action later. In term papers we explain that various reshufflings of the natural order are possible and often desirable to make a paper more persuasive. What is crucial, we stress, is to remember that any departures from natural order should be clearly marked so the reader does not get lost.

In teaching organization in writing, we emphasize the relationship between rhetorical and natural order leaving textual order for that part of our course dealing with coherence. A model of the complete writing process would look like this:

Natural order-->Rhetorical order-->Textual order. According to this model the student first studies some things or events in their natural order. Then (in a stage often omitted by young writers) he thinks about his writing purpose and the audience with whom he wishes to communicate and decides on a good rhetorical order for this particular writing occasion. Finally, he writes, and after final editing, if he is skillful, creates a paper that has coherence, that is, in textual order.

## Reading Model

But what would a model of the reading process that incorporated these three orders look like? There are two different models of the reading process depending on whether one wishes to represent intensive or extensive reading. A good intensive reader is expert at taking a discourse in textual order and converting it in his mind or in his notebook, into natural order. He can take contemporary newspaper accounts of the Boston Tea Party and reconstruct the natural order of events as they occurred in Boston. The good intensive reader may be one who can spot a truncated syllogism, recognize what is missing, and be ready to comment on the weakness of the argument in class. A model of the reading process of a good intensive reader might look like this:

Textual order--->Natural order

A good extensive reader, because he has consciously or unconsciously categorized discourses into types, knows where in the discourse the most important information is located. A good extensive reader has a finely tuned sense of rhetorical order. He knows, for example, that newspaper articles have the important information in the beginning, that academic articles usually have an information-packed thesis statement at the end of the introduction, that chapters in chemistry textbooks often end with a key summary, that epics and a lot of other narratives often begin in media res. With this information the extensive reader does not need to read every line; he is not obligated to become preoccupied with textual order. Having a sixth sense for rhetorical order, he zeroes in on the places where the key information is located and gets the gist of a discourse in a quick reading. A model of how he goes about things might look like this:

Rhetorical order--->Natural order

I think the approach outlined here has something to offer the reading teacher. First, if a student understands these different orders, he has a strategy for constructing his own "advance organizers," conceptual tools that are apparently very useful in reading. Rickards and others have suggested that poor readers lack the ability to semantically chunk a text but if provided with advance organizers by the teacher they recall more information and can group facts more intelligently. After being introduced to the different types of order in discourse, a student should become better at subsuming subordinate information under general headings. Second, the approach to order outlined here provides the teacher with a framework to use in constructing exercises. The teacher can give the student an article plus a list of events described in the article and ask him if the events are listed in the same textual order as they are in the article, and if they are, if this textual order is the same as the natural order. If the textual order is different from the natural order the student can be asked to re-arrange the textual order so it is congruent with the natural order. Bloom in his taxonomy of educational objectives for the cognitive domain suggests that this ability to re-arrange data into new configurations is an important aspect of what is commonly referred to as knowledge. Thus, it seems a skill worth teaching.

Third, this approach to order enables the student to see connections between the organization of his own writing and the organization of the articles and books he is reading. If his consciousness concerning order is raised he may notice more of it in his reading and consequently see more necessity for putting his own writing in order.

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# AN ANALYSIS OF THE ENTWISTLE STUDY SKILLS INVENTORY AND ITS CONTRIBUTION TO THE PREDICTION OF ACADEMIC ACHIEVEMENT WITH A COMMUNITY COLLEGE POPULATION

by

Mark E. Thompson

During the past 10 years, two-year colleges (junior/community colleges) have grown at a faster rate than four-year institutions of higher learning in the United States. Growth of two-year colleges in the past 10 years can be attributed to an egalitarian educational philosophy, which promotes universal college attendance, coupled with increased numbers of high school graduates, and increased demands for continuing education. Most two-year colleges serve students interested in technical programs, usually terminated at the end of the second year. Baccalaureate degree credit (transfer program) is also offered, in addition to technical courses. Two-year colleges welcome students with various levels of measured academic aptitude. This policy is counter to the aims of the more traditional four-year institutions that base admissions on minimum aptitude scores using standard tests. To attract students, two-year colleges advertise low cost, propinquity, an open admissions policy, and a wide variety of educational programs (technical and academic).

The academic credentials of entering two-year students indicate they are a higher risk in terms of predicted academic success. Collectively these students will have lower high school grades and lower aptitude scores, than students entering four-year institutions. The result is that students who do not persist academically are over represented in the two-year college, when compared to students in four-year colleges.

## Problem

For two-year colleges, the specific problem is that a greater number of high risk students are enrolled than one would find in four-year institutions. This heterogeneous student population might benefit from a greater emphasis on study skills techniques (reading laboratories and study habits programs). For students that are handicapped by their backgrounds, developing study skills may make a difference, because with this training they may better compete with the demands required of an academic society and profit from the knowledge.

Educational and psychological theorists attribute academic failure in college to attitudes of students (lack of motivation and/or rejection of accepted academic values), lack of ability, and personality characteristics. Combinations or interactions of these attributes result in behavior patterns, which classify students as either successful or unsuccessful. It is most difficult to account for the total variance that contributes to the completion of a college degree program.

Scores on aptitude tests make a difference, and attitudes of the student make a difference. Lavin (1965) did a massive study on the prediction of academic performance (300 studies reviewed and analyzed), and found ability accounts for 35 percent to 45 percent of the variation. No other single factor accounts for this much variation, yet more than half remains unexplained. Lavin recommended future research be directed to finding variables that are non-intellective in nature to help account for the remaining variation.

## Purpose

The purpose of this research was to determine the predictive validity of the Entwistle Student Attitudes Inventory (SAI) for a two-year community college population in Kentucky. This study proposes to identify students in community colleges through an attitude inventory that relates to academic achievement. The attitude inventory used was developed in England (Entwistle, et al., 1971), and claims to identify individuals on the basis of: 1) motivation; 2) study methods; 3) examination techniques; and 4) lack of distractions toward academic work. There are two advantages this inventory has over similar study attitude inventories, namely it is not protected by copyright laws, and it is short (47 true/false questions). Thus, cost and time can be reduced compared to the use of other similar inventories.

If two-year college students can be identified by attitudes concerning their study behavior, it may be possible to help them with specific clinical treatments (courses designed to improve their study effectiveness and specific skills such as reading). Thus, the Entwistle SAI has the possibility of becoming a diagnostic instrument; moreover, it could also be used as a screening instrument for counselors. Additionally, this instrument can be used as a teaching aid by demonstrating to the student that effective study methods and motivational factors are important aspects of academic success. Finally, the SAI can be a valuable research tool in the prediction of academic success, provided the students express their true feelings about themselves.

## Review of Literature

In 1933, Wrenn published one of the first study habits inventories in the United States (Brown and Holtzman, 1955). Wrenn's inventory was originally designed for men, but was modified later for women (Wrenn & Humber, 1941). An attempt was made to determine the extent to which study habit items could be used to predict academically successful or unsuccessful students. Wrenn believed study habits might correspond to academic success if ability was controlled. The work done by Wrenn in the 1930's and 40's was expanded by other researchers interested in study methods. Brown and Holtzman have concentrated on study methods inventories and found that attitudes toward the academic environment are significantly related to achievement (Brown, 1972). The Brown-Holtzman Survey of Study Habit Attitudes (SSHA) Inventory is generally acknowledged as one of the best study habit attitude inventories in the United States.

There have been numerous research studies that link scores on the Brown-Holtzman Inventory with academic success (Holtzman, et al., 1954; Brown & Holtzman, 1956; Ikenberry, 1966; Pepper, 1970; Phillips, 1970; Brown, 1972; Goldfried & Zurilla, 1973; and Shaffer, 1973). One of the purposes of the SSHA is to identify students whose study habits and attitudes are different from those of students who earn high grades. The SSHA has been found to have a low correlation with typical measures of scholastic ability (.07 to .17) and moderate correlation with a GPA (.36) (Higgins, 1967). A major weakness of the SSHA is that responses can be manipulated by the student at will. Accurate responses on certain items may require insight beyond the student's capability (Roak & Harrington, 1969).

The logic for using study methods as a predictive variable in college is related to the environmental differences between high school and college. In public high schools, students receive greater support from their teachers. College teachers present more depth and expect independent work from their students. The need for independent study increases as the student progresses in higher education. It is essential for college and university students to adapt quickly to the new learning environment and to accept responsibility for academic development. The student most likely to be more successful than others, may exhibit better study habits, and adapt more easily to academic norms and requirements of the college. Consequently, the student may become more self-confident about his ability and have the personality characteristics for successful independent study (Hewitt, 1973).

Study habit inventories should correlate higher with measures of achievement than with measures of scholastic aptitude. One is attempting to identify a factor that is not related to aptitude, but will increase predictive precision. Several researchers have worked on this problem besides Wrenn, Brown and Holtzman (Brooks & Heston, 1945; Carter, 1948; Michael, 1952; Cassel & Pauk, 1971; Entwistle, et al., 1971; Michael et al, 1971; Hinrichsen, 1972; and Miller & Michael, 1972).

How-to-study- manuals and study skills courses have been popular for a number of years. Thirty-eight how-to-study manuals were published between 1926 and 1939 (Laycock & Russell, 1941). Brown and Holtzman (1955) stated that more than 200 how-to-study manuals were published between 1926 and 1955. In 1960 Entwistle reviewed the literature, and made evaluations of 22 study skills courses. Entwistle concluded:

1) A study skills course will usually be followed by improvement.
2) A course will be most beneficial for students desiring to take it.

3) Students wishing to take a study skills course but prevented from doing so, and therefore presumably of comparable motivation to those enrolled, fail to show significant improvement.
4) Any gains noted will not necessarily be related to either the content or the duration of the course.

Biggs (1970a, 1970b) questioned the value of straightforward study skills programs after reviewing research that reported null relationships between study behavior and performance. Biggs (1970a, 1970b) and Child (1970) stated it is unlikely that there is such a thing as good study behavior applying to most people and to most courses. This position opposes a massive amount of research on the study patterns of superior versus failing students. Specialists in remedial courses have indicated that one needs to understand the dynamics of personality, motivation and interpersonal relations to improve study skills behavior and raise GPA, but it can be accomplished (Berg, 1964; Spache, 1964; Pauk, 1965; Schick, 1968; Belcher, 1971; and Pauk, 1973). Individual treatments based on diagnostic accounts of ability and study habits attitudes have helped the high risk student.

There are numerous researchers who have indicated that teaching study strategies to a college population can make a difference in performance (Weinland, 1930; Ecker & Jones, 1935; Carter, 1948; Danskin & Burnett, 1952, Maclachlan & Burnett, 1954; Shaw, 1955;

McDonald, 1957; Davie, 1961; Pond, 1964; Pauk, 1964a, 1965b; Spache, 1964; Ikenberry, 1966; Crewe, 1969; Rickabaugh, 1969; Cartwright, 1970; Child, 1970; Christ, 1970; Egeland, 1970; Miller & Stillwagon, 1970; Pepper, 1970; Cartwright, 1971; Kerstiens, 1971; Ritter, 1971; Kaye, 1972; Goldman & Hudson, 1973; Goldman & Warren, 1973; Shaffer, 1973; and Treppa, 1973). In 1930, Weinland reported on the characteristics of good students and found they were self-reliant, avoided distractions, alternated tasks frequently, worked when interest in the subject matter was low, kept complete notes, read rapidly, and belonged to social groups.

Pauk (1973) stated the community college student needs to know two skills for achieving academic success. First, the student needs to know how to master textbook assignments, and second, the student needs to know how to master classroom lectures. These tasks are not easily taught in the format of systematic study skills courses (SQ3R, OK4R or OAWET systems). Pauk (1973) questioned the effectiveness of packaged study skills courses without professional attention given to student characteristics.

In summary, one might conclude that a study habits inventory does provide information about students not indicated by ability measures. This information might be helpful to high risk students. Entwistle, et al., (1971) have developed a study habits inventory for a British population that correlates .77 with the Brown-Holtzman SSHA. This inventory will be discussed and analyzed.

Entwistle has done considerable research in England on the topic of achievement in higher education. Self-report inventories designed to tap the more specific dimensions of academic motivation have been a particular interest of his. The dimensions of academic motivation appear to have been conceptualized in terms of a type of intrinsic motivation which links competitive academic attainment with self-esteem (Entwistle, et al., 1974).

One of Entwistle's first studies aimed at identifying factors of academic motivation was reported in 1968. This study was conducted at Aberdeen, Scotland, with 2,707 13-year old students using a self-rating inventory. The inventory was constructed to assess academic motivation and contained 24 true/false items. Entwistle (1968) reported that he was influenced by research in the United States that attempted to relate academic motivation to the more general trait of achievement motivation. He was particularly impressed with the research of Finger and Schlesser (1965) on academic motivation.

In 1971, Entwistle had two articles in the British Journal of Educational Psychology that reported on research with his study habits inventory (Entwistle, et al., 1971 and Entwistle & Brennan, 1971). Cowell and Entwistle (1971) reported on the relationship between academic performance and the Brown-Holtzman SSHA for British students in higher education. They found significant correlations, implying that it is possible to define study methods which will be effective for a majority of students in England.

Entwistle, Nisbet, Entwistle and Cowell (1971) provided a detailed report on their new study habits inventory developed for British students in higher education. This inventory was called a Student Attitudes Inventory and had 47 true/false items with four scales:

1) Motivation--14 questions
2) Study methods--14 questions
3) Examination techniques--9 questions
4) Lack of distractions--10 questions

The items were initially allocated to two scales (motivation and study methods) (Entwistle & Wilson, 1970, and Entwistle & Entwistle, 1970). The items in the examination technique scale had been previously allocated to the study methods scale. The questions composing the lack of distractions scale were taken from the motivation scale. Validity was inferred from correlations with the Brown-Holtzman scale (.77), independent measures of hard work (hours studied) and the criterion measure of academic performance.

This review of literature has emphasized the contributions possible from a study habits inventory. There is evidence that attitudes concerning the academic environment do correspond with achievement. The concept of academic achievement motivation has been used to classify study habit attitudes.

## Methodology

The hypotheses to be tested in the null form are:

1) The prediction of student grade point average using composite American College Test scores will not be measurably improved by including scores from the Entwistle SAI.

2) There will be no difference in the Entwistle SAI scores between overachieving and underachieving students.

The population used to measure attitudes, ability and academic success was selected from six community colleges in the University of Kentucky System:

1) Ashland
2) Elizabethtown
3) Henderson
4) Hopkinsville
5) Louisville
6) Somerset

Community colleges in the University of Kentucky System have programs for the first two years of post-secondary education. Work beyond the sophomore level must be taken at a four-year institution.

The Entwistle SAI was used to measure the concepts of motivation, study habits, examination technique, and lack of distractions from academic work. The 47 item questionnaire was administered in the Spring Semester of 1974. Each student had a score based on the number of right answers in each category (motivation, study habits, examination technique and distractions from academic work).

An ability measure of the student's potential to do academic work in higher education came from the American College Test (ACT) composite score. The composite score is based upon performance tests in social studies, natural sciences, mathematics, and English. Foster and Danskin (1965) found that ACT scores alone account for 35 to 50 percent of the variation in grades obtained at college. Elton (1969) concluded that ability measures are the best predictors of educational outcome for community college students in Kentucky. Harrington (1969) and Stanley (1970) also concluded that ability measures were most useful in forecasting college performance. In this study high school grades were not used as a measure of ability, because the differences related to high school of origin cannot be handled adequately within the prediction equation (Thomas & Stanley, 1969 and Grant & Wirthlin, 1970).

The measure of academic success is represented by the cumulative grade point average (GPA) at the end of the Spring Semester of 1974. This measure was compared to the predicted GPA in order to determine overachievement and underachievement. Predicted GPA was obtained by a linear regression technique using the principle of least squares (Kerlinger, 1973). ACT scores were programmed as the independent variable, and GPA was programmed as the dependent variable. A predicted GPA was obtained from the scores each student had on the composite ACT. The difference between the actual GPA minus predicted GPA will result in an error. If this error was above one-half the standard error for the predicted GPA, then the student was classified as an overachiever. If the error was below one-half of the standard error for predicted GPA, the student was classified as an underachiever. The overachievers had a better than expected GPA based upon their ability scores. The underachievers did not do as well as expected based on their ability.

At each community college the sampling procedure was accomplished at the convenience of classroom teachers. Table 1 indicates the responses obtained. Procedures for sampling involved going into classes that were in session and requesting the students to complete the Entwistle SAI. Permission from the classroom teachers had to be obtained in advance. No particular classes were selected for sampling. The decision to sample classes was at the discretion of each community college director based on the convenience of the teachers. Rules for random assignment could not be followed. A comparison of the entire community college population to the sample population on the basis of ACT composite score and cumulative GPA is found in Table 2.

Table 1

Response by Sex for Each Community College Sampled

| College | Male | Female | Totals |
|---|---|---|---|
| Ashland | 24 | 2 | 26 |
| Elizabethtown | 59 | 101 | 160 |
| Henderson | 67 | 134 | 201 |
| Hopkinsville | 119 | 165 | 284 |
| Louisville | 99 | 121 | 220 |
| Somerset | 45 | 60 | 105 |
| Totals | 413 | 583 | 996* |

*A total of 1,094 responses were obtained, but 98 did not include ACT composite scores.

## Table 2

## Comparison of Sample to Total Community College Population On the Basis of Composite ACT Scores and Cumulative GPA

| Population | Mean Composite ACT | Mean Cumulative GPA at Conclusion of Spring 1974 Semester |
|---|---|---|
| Sample Population (N=996) | 17.68 | 2.77 |
| Total Community College Population (N=11,824) | 17.60 | 2.76 |

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As indicated in Table 2, the sample population closely approximates the entire community college population on the basis of ACT composite scores and cumulative GPA. It will be assumed that the sample population represents a random sample, although the rules for randomization were not employed.

After data were obtained, each answer sheet was screened, and the information was transferred to keypunch cards for an analysis by a computer program. Each card contained the students' response and also had the composite ACT score and cumulative GPA on it.

## Summary of Findings

Tables 3, 4, and 5 show correlations between the composite ACT scores, cumulative GPA and the Entwistle SAI scores for the total sample and by sex.

For both males and females there is a low correlation between SAI scales and the ACT composite score which is encouraging, because it indicates there is little overlap between an ability measure and a study attitude measure. A slightly higher correlation is found between cumulative GPA and SAI scales than between composite ACT scores and SAI scores.

As expected, the correlation between an ability measure and academic success is relatively high for the total population (.45). Females had a slightly higher correlation (.49) compared to males (.47). The research

## Table 3

Correlation Coefficients between Composite ACT Scores, Cumulative GPA and Entwistle SAI Scales for Males and Females (N=996)

| Variable | Mean Value | ACT | GPA | M | SH | ET | D |
|---|---|---|---|---|---|---|---|
| ACT | (17.68) | | .45 | .16 | .05 | .25 | .13 |
| GPA | ( 2.77) | | | .29 | .23 | .30 | .15 |
| Motivation | ( 8.50) | | | | .49 | .37 | .23 |
| Study Habits | ( 7.40) | | | | | .39 | .32 |
| Exam Technique | ( 6.12) | | | | | | .21 |
| Distractions | ( 5.69) | | | | | | |

### Table 4

### Correlation Coefficients between Composite ACT Scores, Cumulative GPA and Entwistle SAI Scales for Males (N=413)

| Variable | Mean Value | ACT | GPA | M | SH | ET | D |
|---|---|---|---|---|---|---|---|
| ACT | (18.51) | | .47 | .14 | .09 | .25 | .22 |
| GPA | ( 2.64) | | | .24 | .30 | .32 | .23 |
| Motivation | ( 8.33) | | | | .51 | .39 | .20 |
| Study Habits | ( 6.83) | | | | | .48 | .33 |
| Exam Technique | ( 5.98) | | | | | | .26 |
| Distractions | ( 5.68 | | | | | | |

## Table 5

Correlation Coefficients between Composite ACT Scores, Cumulative GPA and Entwistle SAI Scales for Females (N=583)

| Variable | Mean Value | ACT | GPA | M | SH | ET | D |
|---|---|---|---|---|---|---|---|
| ACT | (17.09) | | .49 | .19 | .06 | .27 | .06 |
| GPA | ( 2.86) | | | .31 | .14 | .28 | .09 |
| Motivation | ( 8.61) | | | | .48 | .34 | .24 |
| Study Habits | ( 7.80) | | | | | .29 | .32 |
| Exam Technique | ( 6.22) | | | | | | .17 |
| Distractions | ( 5.69) | | | | | | |

of Albelson (1952), Seashore (1962), Endler and Steinberg (1963), Lewin (1965), and Sampel and Seymour (1971) indicated that females are more predictable than males using ability measures to forecast academic performance. The higher mean ACT composite scores for males (18.51) compared to females (17.09) supports ACT national research indicating that males have higher ability scores than females (American College Testing Program, 1971).

Using the Rasch model of item analysis, 22 of the 47 questions in the Entwistle SAI were judged as fitting the model. The process by which the Inventory was calibrated and screened is based on the procedures outlined by Wright (1967) and Whitely and Davis (1974). A calibrated score for each person completing the Inventory was obtained. According to the Rasch model theory, those questions in the Inventory that do not represent a unitary trait are eliminated.

Using the Rasch calibrated score a multiple regression analysis was used to predict GPA. Tables 6, 7, and 8 indicate the correlations between composite ACT scores, cumulative GPA and the SAI calibrated Rasch model score for the total population and by sex.

For males and females a relatively low correlation between ability and the Entwistle SAI Rasch score was obtained. A higher correlation was found between GPA and the Entwistle SAI Rasch score. These correlations are similar to the relationships found when using the number of correct responses in each SAI scale (Tables 3, 4, and 5).

Table 6

Correlation Coefficients between
Composite ACT Scores,
Cumulative GPA and the
SAI Calibrated Rasch Score
for Males and Females
(N=996)

| Variable | Mean Value | ACT | GPA | SAI |
|---|---|---|---|---|
| ACT | (17.68) | | .45 | .14 |
| GPA | ( 2.77) | | | .28 |
| SAI | (52.64) | | | |

## Table 7

### Correlation Coefficients between Composite ACT Scores, Cumulative GPA and the SAI Calibrated Rasch Score for Males (N=413)

| Variable | Mean Value | ACT | GPA | SAI |
|---|---|---|---|---|
| ACT | (18.51) | | .47 | .17 |
| GPA | ( 2.64) | | | .32 |
| SAI | (51.98) | | | |

## Table 8

Correlation Coefficients between Composite ACT Scores, Cumulative GPA and the SAI Calibrated Rasch Score for Females (N=583)

| Variable | Mean Value | ACT | GPA | SAI |
|---|---|---|---|---|
| ACT | (17.09) | | .49 | .14 |
| GPA | ( 2.86) | | | .21 |
| SAI | (53.11) | | | |

Tables 9, 10, and 11 represent the results of a stepwise multiple regression analysis using cumulative GPA as the dependent variable. Composite ACT scores and the Rasch calibrated SAI scores were used as the independent variables.

### Table 9

### Stepwise Multiple Regression Analysis Using Composite ACT Scores and SAI Calibrated Rasch Scores to Predict Cumulative GPA for Males and Females (N=996)

| Variable Entering | Variance ($r^2$ x 100) | Resulting Beta Coefficients |
|---|---|---|
| Step 1 ACT | 20.51%* | .42 (ACT) |
| Step 2 ACT & SAI | 25.28%* | .22 (SAI) |

*P < .05

### Table 10

### Stepwise Multiple Regression Analysis Using Composite ACT Scores and SAI Calibrated Rasch Scores to Predict Cumulative GPA for Males (N=413)

| Variable Entering | Variance ($r^2$ x 100) | Resulting Beta Coefficient |
|---|---|---|
| Step 1 ACT | 22.19%* | .43 (ACT) |
| Step 2 ACT & SAI | 28.27%* | .25 (SAI) |

*P < .05

Table 11

Stepwise Multiple Regression Analysis Using Composite ACT Scores and SAI Calibrated Rasch Scores to Predict Cumulative GPA for Females (N=583)

| Variable Entering | | Variance ($r^2 \times 100$) | Resulting Beta Coefficient |
|---|---|---|---|
| Step 1 | ACT | 24.17%* | .47 (ACT) |
| Step 2 | ACT & SAI | 26.19%* | .14 (SAI) |

*$P < .05$

Variance can be interpreted as a proportion, and when multiplied by 100, it is expressed as a percentage. Statisticians refer to $r^2$ as the coefficient of determination (Van Dalen, 1973.) The coefficient of determination gives the proportion of the total variance of one variable (in this case GPA) that can be predicted from, attributed to, or explained by the variance in another variable (ACT scores and SAI scores).

Tables 9, 10, and 11 show that the variance contributed by the Rasch SAI score is statistically significant. This means that the statistical probability of this being a chance occurence is less than five in 100 attempts. Since the correlation coefficient between the SAI calibrated Rasch score and cumulative GPA was greater for males (.32) than females (.21), it is logical that there would be variance, beyond that contributed by ACT composite scores, for males (6.08%) than females (2.02%). ACT composite scores contributed more variance for females, but the SAI score contributed more variance, beyond that accounted for by the composite ACT score, for males.

One-half the standard error of the actual GPA minus the predicted GPA was calibrated (.33) to determine over and underachieving students. Those students whose cumulative GPA deviated beyond ± .33 from the predicted GPA (when using composite ACT scores to predict GPA) were classified as either over or underachievers. If a student's actual GPA minus the predicted GPA was above .33, the student was an overachiever. Likewise, if the actual GPA minus the predicted GPA was less than -.33, the student was an underachiever. Tables 12, 13, and 14 indicate a comparison of mean scores between overachieving and underachieving students on the basis of ability (ACT scores), study attitudes (SAI scores) and achievement (GPA).

There was a statistical difference found at the .01 level of significance between over and underachieving students on the Entwistle SAI variable. The observed difference between the SAI scores for over and underachieving students may not reasonably be attributed to chance. Over achieving students had higher scores on the Entwistle SAI when compared to underachieving students. This was also the case for males and females when observed separately. There was a greater difference between the SAI scores for over and underachieving males (3.62) than females (1.36).

Table 12

Comparison of ACT Composite Scores, SAI Calibrated Rasch Scores and Grade Point Average for Overachieving and Underachieving Males and Females

| Variable | Overachieving Males & Females (N=323) | Underachieving Males & Females (N=290) | T |
|---|---|---|---|
| ACT | 17.85 | 17.54 | 1.72* |
| SAI | 53.84 | 51.36 | 14.59** |
| GPA | 3.47 | 1.97 | 27.77** |

P > .01*
P < .01**

Table 13

Comparison of ACT Composite Scores, SAI Calibrated Rasch Scores and Grade Point Average for Overachieving and Underachieving Males

| Variable | Overachieving Males (N=90) | Underachieving Males (N=161) | T |
|---|---|---|---|
| ACT | 19.27 | 18.73 | 1.86* |
| SAI | 54.19 | 50.57 | 12.43** |
| GPA | 3.47 | 2.01 | 16.22** |

P > .01*
P < .01**

Table 14

Comparison of ACT Composite Scores, SAI Calibrated Rasch Scores and Grade Point Average for Overachieving and Underachieving Females

| Variable | Overachieving Females (N=233) | Underachieving Females (N=129) | T |
|---|---|---|---|
| ACT | 17.30 | 16.05 | 5.21* |
| SAI | 53.70 | 52.34 | 6.18* |
| GPA | 3.46 | 1.93 | 19.87* |

P < .01*

The ability score (ACT) was not statistically significant for males at the .01 level (Table 13), but was statistically significant for females at the .01 level (Table 14). The female overachievers had higher ability scores than the female underachievers. This indicates that ability measures for females are more predictive of achievement than for males. This finding is consistent with previous research.

## Results

When controlling for ability it was found that SAI scores do correspond to achievement. Overachievers had higher Entwistle SAI scores than underachievers which is consistent with previous research that indicates study attitudes are related to achievement levels.

The lowest correlation coefficient between the four SAI scales and cumulative GPA was on the distraction scale (.23 for males and .09 for females). Entwistle, et al., (1971) also found that the distractions scale had the lowest correlation with the criteria of academic performance in three subgroups (university, college and technical students).

If the SAI scales are to be useful, it is important that they correlate more closely with academic performance (cumulative GPA) than with ability (composite ACT score). This was the case with males and females for all four scales. The same relationships were found using one calibrated Rasch model score for 22 selected questions. The Rasch SAI score correlated with ability (composite ACT score) at .17 for males and .14 for females. The Rasch SAI score correlated with performance (cumulative GPA) at .32 for males and .21 for females.

For males the examination technique and study habit scales had the highest correlation with academic performance (.32 and .30 respectively). The study habits scale correlated .30 with academic performance for males and .14 for females. There was a low correlation between the study habits scale and ability for both males (.09) and females (.06). This indicates that males professing to have better study habits are more likely to have higher grades than females.

Hypothesis 1. The calibrated SAI Rasch score did contribute a statistically significant amount of variance beyond an ability measure (composite ACT score) for males and females (Tables 10 and 11). Therefore, the null hypothesis that there will not be a statistically significant amount of variance contributed beyond an ability measure can be rejected.

The Entwistle SAI Rasch score contributed more variance to the male population (6.08%) than the female population (2.02%). This indicates that the Entwistle SAI is more predictive for a male population than a female population. An ability measure was found to be more predictive of female population than a male population. It might be deduced that study habits training would be more effective for males than females.

Hypothesis 2. Table 13 indicates that overachieving males do have statistically higher Entwistle SAI scores than underachieving males. Table 14 indicates that overachieving females do have statistically higher Entwistle SAI scores than underachieving males. The null hypotheses that there will be no difference in Entwistle study attitude measures between over and underachieving males and females can be rejected. This finding is consistent with previous research, and indicates that the Entwistle SAI may be useful in identifying study attitudes for a United States student population in higher education. The Entwistle SAI does correspond to achievement when ability is controlled.

## Recommendations

In order to expand upon this research, it is recommended that more investigations be accomplished with the Entwistle SAI. Specifically, different populations within higher education in the United States should be sampled. Controlling for ability and numerous non-intellectual factors such as sex, age, work habits, family environment, and demographic characteristics might indicate there are specific attitudes associated with a particular classification of student. The interaction of non-intellective factors that are associated with academic success needs to be investigated.

The relatively high correlations between the examination techniques scale and GPA for males (.32) and the motivation scale and GPA for females (.31) indicate future research should be concentrated in these areas. When grades are used as a measure of college success, there was a higher percentage of variance contributed by the SAI, beyond an ability measure (ACT composite score), for males (6.08%) compared to females (2.02%). Future research should examine the reasons for this difference.

There is the possibility of increasing the variance contributed by the SAI to account for college success. Modifications on the Entwistle Inventory using the two scales that best correlate with GPA might be a starting point. In the case of males, the study habit and examination technique scales had the highest correlation with grades.

For females, the motivation and examination technique scale had the highest correlation with grades. The examination technique scale had a relatively high correlation with grades for males (.32) and females (.28). The scale could be expanded by adding similar items with the hope of raising the correlation with GPA.

It is recommended that counselors use the Entwistle SAI as a clinical measure of attitudes toward study habits. This inventory does contribute measurably to the prediction of academic success. Students with measured low ability and high SAI scales would probably need a different treatment strategy than students with high ability scores and a low SAI score.

Based on the research presented in the review of literature, it is recommended that community colleges screen their students and conduct a diagnostic profile for each high risk student entering. Specific remedial treatments should be attempted. Research indicated that high risk students can be helped to obtain better grades than what has been predicted for them. This approach would help the high risk student attempting to earn a degree, and it would lower the attrition rate for the community colleges.

Community colleges, like other institutions of higher education in the United States, need students to function. Making a concerted effort to retain those freshmen that enter higher education will be reflected in larger enrollments. This benefit should be of particular interest to administrators within higher education, because there will be increased competition for students in the future.

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## THE ENTWISTLE STUDENT ATTITUDES INVENTORY

## WITH INSTRUCTIONS TO STUDENTS

The following statements cover a wide range of students' comments on their life at university or college and on certain more general social problems. The questions deliberately follow no logical order; we are interested in your immediate response to each separate item. Please work quickly through these statements indicating your agreement or disagreement by marking either True or False on the answer sheet. It is most important that you do make a definite response to every statement, even though your feelings may be rather indefinite.

1. Background music helps me to study more effectively.
2. It is most unusual for me to be late handing in work.
3. I certainly want to pass the next set of exams, but it doesn't matter much if I only just scrape through.
4. I haven't had any serious personal problems since I came here.
5. My habit of putting off work leaves me with far too much to do at the end of term.
6. I enjoy the challenge of a difficult new topic in lectures.
7. In exams I start writing almost straight away; there's no time to think out the answers beforehand.
8. If I have a sudden pain, I always think it may be something serious.
9. It's rather difficult for me to organize my study time: at school this was done for me.
10. I usually tackle the easy things first and leave the more difficult ones until the end.

11. I rarely seem to do myself justice in exams.

12. Sport or social activities take up a lot of my time.

13. I seem to have plenty of free time during the week.

14. I enjoy collecting things such as stamps, minerals, plants, etc.

15. I often find that my mind goes blank when I'm faced with a particularly difficult question.

16. I like to be in the swim of things: if there is anything going on I like to be there.

17. In exams I often have little or no time left to answer the last question.

18. I get depressed easily—too easily.

19. I don't find much time to study during the holidays.

20. I play any game to win, not just for the fun of it.

21. A poor first answer in an exam tends to make me panic.

22. My lecture notes are often difficult to decipher afterwards.

23. I sometimes wish I had gone straight into work after school.

24. Worrying about an exam or about work that's overdue often prevents me from sleeping.

25. I usually plan my week's work in advance, either on paper or in my head.

26. I get disheartened and give up easily if something is too difficult for me.

27. I enjoy lively parties.

28. I find it difficult to pick out the relevant points in a lecture unless they are written on the board or in a hand-out.

29. I can't see any relevance in most of the work we do here.

30. I feel nervous before an exam, but it seems to make me work better once I start.

31. I need to be in the right mood before I can study effectively.

32. I'm a pretty average student: I'll never be particularly good, so there's no point in striving to be something I'm not.

33. Money wories have distracted me from my work.

34. I find it difficult to keep awake during some lectures.

35. It's important for me to do really well in the courses here.

36. To work effectively, I need plenty of time for relaxation.

37. There seems to be little point in following up the references we are given in lectures.

38. It's not often that I can stick at work for more than an hour at a time.

39. Low marks in an exam make me ashamed.

40. There are very few of the recommended textbooks which are really worth buying.

41. If I had to state my priorities at present, exam success would be near the top.

42. I hate admitting defeat, even in trivial matters.

43. I don't often join in tutorial discussions: I prefer to listen.

44. There's no point in trying to do things in a hurry: I prefer to take my time.

45. I'm rather slow at starting work in the evenings.

46. My friends always seem to be able to do things better than me.

47. I believe in taking an active part in societies and clubs.

## QUESTIONS SELECTED FROM THE ENTWISTLE INVENTORY BY THE RASCH MODEL OF ITEM ANALYSIS

Motivation

1. It is most unusual for me to be late handing in work.
2. I enjoy the challenge of a difficult new topic in lectures.
3. I usually tackle the easy things first and leave the more difficult ones until the end.
4. I sometimes wish I had gone straight into work after school.
5. It's important for me to do really well in the courses here.

Study methods

1. It's rather difficult for me to organize my study time: at school this was done for me.
2. I don't find much time to study during the holidays.
3. My lecture notes are often difficult to decipher afterwards.
4. I usually plan my week's work in advance, either on paper or in my head.
5. I find it difficult to keep awake during some lectures.
6. There seems to be little point in following up the references we are given in lectures.
7. There are very few of the recommended textbooks which are really worth buying.

8. I don't often join in tutorial discussions: I prefer to listen.

Exam technique

1. I certainly want to pass the next set of exams, but it doesn't matter much if I only just scrape through.
2. I rarely seem to do myself justice in exams.
3. I often find that my mind goes blank when I'm faced with a particularly difficult question.
4. In exams I often have little or no time left to answer the last question.
5. A poor first answer in an exam tends to make me panic.

Lack of distractions

1. Sport or social activities take up a lot of my time.
2. I get depressed easily—too easily.
3. Money worries have distracted me from my work.
4. To work effectively, I need plenty of time for relaxation.

# READING AND EVALUATION:
## PERSPECTIVE 1984

by

David Nelson

Ohio Northern University

It does not take an extremely perceptive observer of teachers to discover that a great percentage are quite naive in regard to even the simplest and most basic principles of evaluation. This factor is perhaps the single most important impediment to the development of better evaluation in reading. Buros (1972), in the Preface to the Seventh Mental Measurements Yearbook, makes this point quite cogently:

> "Concomitantly, we attach considerable importance to other objectives of a crusading nature: to impel test authors and publishers to publish better tests and to provide test users with detailed information on the validity and limitations of their tests; to inculcate test users with a keener awareness of the values and limitations of standardized tests; to stimulate contributing reviewers to think through more carefully their own beliefs and values relevant to testing; to suggest to test users better methods of appraising tests in light of their own particular needs; and to impress test users with the need to suspect all tests unaccompanied by detailed data on their construction, validity, uses, and limitations--even when products of distinguished authors and reputable publishers."

Buros then goes on to say that he is more confident than ever of the correctness of the following statement which was written for the introduction to Tests in Print:

> Our success in attaining the last five missionary objectives has been disappointingly modest. Test publishers continue to market tests which do not begin to meet the standards of the rank and file of MMY and journal reviewers. At least half of the tests currently on the market should never have been published. Exaggerated, false, or unsubstantiated claims are the rule rather than the exception.
>
> Test users are becoming more discriminating, but not nearly fast enough. It is still true, as I said over ten years ago in Tests in Print, that "At present, no matter how poor a test may be, if it is nicely packaged and if it promises to do all sorts of things which no test can do, the test will find many gullible buyers." Nevertheless, we are continuing in our efforts to influence practices of constructing, distributing, and using tests. If it were not for the conviction that our project is primarily a crusade, we would never have had the zeal to keep on preparing these MMYs.

The research of this author concludes that poor reading tests of the past were produced and published because test consumers did not demand higher quality from test publishers or developers. Furthermore, there is little evidence that the situation is any better today. Subtle changes, however, indicate that changes are taking place and by 1984, possibly, this situation may be remedied.

## The Present

To determine whether reading tests are being used effectively it is important to examine the reason that tests are administered. The primary reason is to provide the instructor with feedback information regarding progress toward goals. It is important to be reminded that students should be informed of their progress. The second major reason for administering tests is to evaluate individual and group strengths and weaknesses so that an effective instructional plan can be developed. There are other minor reasons. For example, tests might be used as part of a research study or to determine retention of gains or transfer of reading skills to other academic areas.

What concerns, inherent in reading tests and the use of these tests, mitigate against the use of tests for providing feedback information regarding student progress toward goals? First, the teacher should list the instructional objectives of his instructional program and then secure several tests which seem to fit his goals. The next step would be to ferret out the objectives of each test. This can be done by critically examining the author's statements about the test, the information in the test manual, and each subtest and individual item on the test. Once the objectives of each test have been determined, the selection of the best test can be made on the basis of how closely the teaching objectives and the test objectives compare.

Tests in reading need special caution. Merely because a test has a vocabulary subtest, and one of the teaching objectives is the development of students' vocabularies, it does not follow that the test meets this particular teaching objective. Other points to be considered include whether or not the vocabulary test is timed, whether vocabulary words are presented in context or in isolation, whether the subject matter is specific or general, and whether spelling of homonyms is included among the word discriminations to be made. The teacher needs to determine whether or not this is indeed the objective he has attempted to develop with students.

If teachers would go through the process of matching teaching objectives to test objectives, several conclusions would probably be reached. The first is that the method by which a particular teacher attempts to develop a specific reading skill and the way in which that skill is measured on a specific reading test are probably quite different. Second, teachers will become quite cognizant of the fact that many of the objectives which they have indicated as being quite important are not measured on any standardized reading test. Included in this category are student attitudes toward reading, increasing the habit of reading, broadening interests in reading, and applying study skills.

The problems of lack of tests for several important objectives should cause teachers to begin planning strategies by which progress toward objectives can be measured.

Farr has outlined four steps that he feels are necessary in measuring change:

1. It is first necessary to define carefully and explicitly the variable being measured.
2. Second, a test of the variable, or as close an approximation to it as can be secured, must be administered under conditions that assure high degree of cooperation on the part of the student.
3. Third, a student's obtained score must be compared with suitable norms, such as percentile ranks in his own age or grade group.
4. Fourth, the possibility that the student's obtained score represents a sizeable deviation from his true score must be considered.

These strategies cannot appropriately rely on standardized tests as we know them in 1975.

## Criticisms

Attacks on tests have been based on many different issues. Such attacks have been on the grounds that: 1) test revisions are dependent upon sales; 2) norms are not appropriate to certain population groups; 3) test scores often reflect test-wiseness; 4) motivated students will often do better than those who are not motivated; and 5) some students who leave blanks when they are not sure of an answer, may not score as well as students who guess when they don't know.

Ironically, as these critics have become most vocal and most able to gain action, there simultaneously arises the appeal for more and different types of testing. For example, the targeted research program in reading is to be aimed at developing reading programs to help children read to specified criterion levels.

But perhaps the single strongest impetus for more testing has resulted from the advance of the accountability concept. Usually this has been interpreted to denote that tests should be given to students to find out how well the educators have done their job.

## Validity

There have been in the past a plethora of investigations dealing with the validity of reading tests. Most of these attempted to isolate specific factors of reading behavior, often employing the factor of the analytic technique. If action is initiated on a variety of fronts, 1984 may witness significant advances in evaluation and reading measurement. The purpose of this paper, therefore, is to consider such needed change.

The method of stating objectives has been emphasized because before we know whether we have an effective reading test, we must know what the objectives are. If a single conclusion can be drawn from the attacks on testing and the demands for more testing, it is that if tests are to be used, they must provide both educators and the lay public with valid information leading toward more rational educational decisions. In most of the attacks on testing, it is the validity of the instrument that is being questioned.

Too little is known about reading behaviors to develop completely valid reading assessments. As a result, educators and psychologists have tended to measure that which can be easily measured. This error has been to disregard that which cannot be measured or ignore or to assign some arbitrary value to an unknown value. By 1984 research will unmask those "things" which were intrinsically immeasurable in 1975.

In addition to the content of the test, there are other problems which impinge on a test's validity. For example, if vocabulary or comprehension are being measured, and the reader has a slow rate, the limit of his ability may not be reached if there is a short time limit. It is also possible that a pupil with a faster rate who does not have as large a vocabulary, or whose power of comprehension is less, may make a higher score.

Another factor related to the rate a pupil progresses through a test is his motivation. If the reading passages are ponderous and pendanic, or the subject is one that holds little interest, pupils without a "build-in-starter" may not work up to their ability; a valid measure of their achievement may not be obtained.

Criterion Reference Tests

Many evaluation experts are now advocating the use of criterion-referenced tests because these tests are supposed to be free of the validity problems of standardized or norm-referenced tests. Criterion-referenced tests are very closely related to the old concept of the mastery test, the test to measure achievement of a specific behavior and often to make a very specific decision.

A standardized norm-referenced test is also concerned with assessing behaviors and making decisions, but the decisions are of a comparative nature. A norm-referenced test is usually anchored in the middle of the ability of the group to be tested; the test performances will then tend to spread out so comparisons can be made. On the other hand, a criterion-referenced test is anchored at one end. In other words the test developer is not interested in the spread of performance but rather in how many students are able to perform well enough to pass the anchor point. The point that has been suggested indicates that criterion-referenced tests can better serve instructional decision-making needs.

Norm-referenced scores are provided for most standardized reading tests. These are the scores that are being rejected by teachers. They are instead asking for test scores (information) that will help them make instructional decisions. Why do test makers use norm-refence scores? They do so precisely because reading behaviors are so complex. It is difficult for even reading specialists to agree on the specific subskills of reading, or to define exactly what reading is, or to state specifically how many sight vocabulary words a child should know before he can begin reading a pre-primer.

If it is difficult for reading specialists to answer these questions with any degree of universal acceptance, then it is easy to understand why test developers have built tests of general reading ability and provided tables of comparisons for teachers to assess how their students performed in these general reading skills compared with other students. When we don't completely understand certain human behaviors, we often use comparisons rather than absolute standards.

## Tests of the Future

The problems and issues surrounding assessment have been around for many years and will continue to plague us. In an age of accountability, we are going to continue to carry out instructional programs and we are going to continue to need information to make decisions regarding these programs.

Important steps toward collecting valid information to improve the use of tests are being inaugurated. Specifically this includes the following:

1) Administration of Tests

The policy suggested is that no test should be administered to any child unless the information obtained from that test is needed for specific educational decision. This should be specified before the administration of the test.

2) Use of Tests.

A test should be viewed as only one piece of information for making decisions. All decisions should be accompanied by a list of the information needed for that decision.

3) Release of Test Information.

Competent measurement and curriculum specialists should be involved in assessment reports. Reports should include a statement regarding the test goals and the curriculum goals as well as other information needed to assess the degree to which goals are being met.

4) Interpretation of Normed Scores

The interpretation of normed scores, such as grade scores, percentiles, stanines should be under the direction of highly competent measurement specialists.

Davis (1972) has pointed out that this causes an individual who is below the national median in grade one but who maintains his relative standing in the national norms group from grade to grade to lag further and further and further behind the national medians in terms of grade equivalent scores.

By the famous Orwellian year 1984 the following questions will, hopefully, be resolved:

1) Should a reading test be independent of method of instruction or intimately related to method?

2) Should a test be sensitive or relatively insensitive to intervention?

3) Should tests be designed to emphasize qualitative individual differences, or to determine mastery of common objectives?

4) Should the same tests be used with all students, or should testing be individualized?

5) Should readiness tests be primarily diagnostic or predictive?

6) Should diagnostic tests be primarily descriptive or prescriptive?

7) Who should be accountable? To whom? For what?

## Conclusion

Tests can and should be improved and we should not cease in our efforts to demand and develop better instruments. At the same time let us set for ourselves the goal of better test usage and interpretation. The problems are complex and the answers elusive. We will, however, continue to make educational decisions, we will continue to judge the accomplishments and failures of our schools, and will continue to demand valid information on which to base these decisions and assessments. We very badly need information about where we stand to help us set goals about where we hope to go. It is obvious that tests play a role in that immense task.

What of the future? 1984? Success will depend, as it always has, on the ability of those representing the various specialities - reading, evaluation, psychology, linguistics, and test publishers to cooperate and communicate a task that has not happened very extensively or very successfully through 1975.

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# Students' Judgments of Their Own Reading Ability

by

Karl Koenke
University of Illinois
and ERIC/RCS
and
Susan Ann Kenyon
and
Boyd Jackson
University of Illinois

Essentially, this is a report of a test of the counseling maxim: "When you want to know what's the matter with a client, ask him. He'll tell you." In this instance, undergraduates who enrolled in the reading and study methods course at the University of Illinois were asked (among other things) to categorize themselves as to reading ability. That is, they were asked to check whether they were good, average, or poor readers.

Specifically, the following questions served to guide the study: Can students accurately estimate their own reading ability? Is self-appraisal of reading ability more closely related to comprehension, speed or vocabulary test scores? Which group of self-appraisers, poor, average, or good, is most accurate? Are there any characteristics peculiar to those students who accurately estimate their reading ability? Overestimate? Underestimate?

## Methodology

The 100 students used as subjects in this study are representative of the

665 University of Illinois undergraduates who were enrolled in the reading and study methods courses taught by the second author of this report during the years 1973-75. The single criterion which disallowed the selection of potential subjects was an incomplete information card.

On the information card the students were asked to note their mother's and father's educational level and occupations, to estimate the number of hours used as study time per week, to indicate whether they were good, average, or poor readers and notetakers, to underline the adjectives which described them, and to indicate their career choice. In addition, they took the Reading Comprehension Subtest of the Cooperative English Tests, 1960 edition, Form 1A.

For purposes of analyses, data in various categories are reported in percentages, i.e., for mother's and father's educational level, self-estimate of reading ability, self-estimate of notetaking ability, and self-image. Self-image categories are as follows: (a) Positive self-image is operationally defined as the selection of combinations of the adjectives: friendly, self-confident, cheerful, capable, and happy with no more than one negative adjective. (b) Average self-image is defined as a combination of the positive adjectives listed above with no more than two of the following negative adjectives: irritable, worrisome, nervous, depressed, meek, and inferior. (3) Negative self-image is defined as selecting a majority of negative adjectives with no more than two positive adjectives.

Analysis of parents' occupations was not undertaken because significant numbers of the students did not give their father's occupation or presented it in less than readily interpretable terms, e.g., layout, computor, recruitor, and dry clean.

The other two variables used in the study are reading test scores and study time. Study time is reported in mean number of hours claimed per week. Both raw scores and decile scores from the reading test are used because converted scores, that is, the deciles, are based on either of two tables--freshman or sophomore, and some of the subjects of this study were juniors and seniors.

## Results

Before attempting to answer any of the questions which are the focus of this study, a sample profile was compiled. It follows:

Mother Education
  38% college; 55% HS; 7% other
Fater's Education
  50% college; 41% HS; 9% other
Study Time (hrs per week)
  Mean 10.7; St. Dev. 9.79
Notetaking Efficiency
  Good 31%; Ave. 60%, Poor 9%
Self-Image
  Pos. 50%; Ave 23%; Neg 13%; none 5%
Reading, Self-Assessed
  Good 27%; Ave 48%; Poor 25%

Reading Test Scores (Means)
Comp 30.4; Speed 42.3; Voc 37.2
Reading Test Scores (St. D.)
Comp. 7.85; Speed 8.15; Voc 8.2

The first question was: Can students accurately estimate their own reading ability?

An inspection of the compiled data* showed that using decile scores with 0-3 = poor; 4-6 = average; and 7-9 = good, 62 of the 100 students (62%) accurately estimated the level of one of the three reading skills tested; i.e., vocabulary, speed, and comprehension. A test of the difference between the two percentages (62/100 accurately estimated and 38/100 inaccurately estimated) resulted $\underline{t}$ obs. = 3.496. To establish that the percentages are different at the .05 level, a $\underline{t}$ = 1.96 was needed. Therefore within limitations, these students estimated their reading scores more frequently than they did not.

The second question was: Is accuracy of self-appraisal of reading ability more closely related to comprehension, speed, or vocabulary test scores?

An inspection of the data in Table 1 showed that 41% of the subjects accurately estimated their comprehension ability and that the same is true of vocabulary estimation. However, only 30% estimated their reading speed accurately.

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*Data available upon request from Karl Koenke, Univ. of Illinois, 305 Education Bldg., Urbana, Illinois 61801

Table 1

Number of Students Who Accurately Estimated Their Scores on at Least One Reading Subtest.

| Self-Estimate of Reading | Reading Subtests | | | Totals |
|---|---|---|---|---|
| | Voc | Speed | Comp | |
| N = 14<br>Good | 9 | 7 | 8 | 24 |
| N = 26<br>Average | 16 | 9 | 14 | 39 |
| N = 22<br>Poor | 16 | 14 | 19 | 49 |
| N = 62<br>Totals | 41 | 30 | 41 | 112 |

A test of the difference between the two percentages (41% and 30% resulted in t obs. = 1.636, t.05 = 1.96. The students therefore did not differ significantly in their estimations across subtests.

Calculation of t for the percentage of Poor but Accurate estimators and the nearest percentage from either the Average and Accurate or Good and Accurate estimators for each of the three subtests, Vocabulary, Speed, and Comprehension, confirmed what was apparent in Tables 2, 3, and 4. That is, the Poor but Accurate estimators were significantly more accurate estimators of their Vocabulary (Poor, Accurate 64% and Good, Accurate 33%, t = 4.614), of their Speed (Poor, Accurate 56% and Good, Accurate 26%, 26%, t = 4.528), and Comprehension (Poor, Accurate 76% and Good, Accurate 30%, t = 5.747).

In an attempt to ascertain whether the Poor, Accurate self-assessors were better in estimating their Comprehension, Speed, or Vocabulary, a Chi square was calculated using the number of Poor, Accurate students who correctly estimated Comprehension (19), Speed (14), and Vocabulary (16). The Chi square was not significant. $X^2$ observed - 3.1987; $X^2$.05,2df = 5.991. Indeed, inspection of the data showed that 13 of the 25 (52%) in the Poor, Accurate group correctly estimated both their comprehension and vocabulary ability. That is, 52% of the Poor, Accurates seemed to know that their ability to comprehend and their vocabulary were both poorly developed.

Inspection and comparison of data in the columns labeled over- and underestimators in Tables 2, 3, and 4 showed that the percentage of students overestimating their reading ability is consistently higher than the percentage of students underestimating their reading ability. Calculation of the standard error of the difference between the total subjects overestimating and underestimating their reading ability and then the related t

## Table 2

A Comparison of Self-Estimates of Reading Ability and Scores on the Reading Subtests of Coop English Tests by Those Who Claimed Good Reading Ability. N = 27

| Self-Estimates of Reading | Reading Subtests | | | Totals |
|---|---|---|---|---|
| | Voc | Speed | Comp | |
| Good-Accurate 7-9 | 9 (33.3%) | 7 (25.9%) | 8 (29.6%) | 24 (29.6%) |
| Over-Estimate 0-6 | 18(66.7%) | 20 (74.1%) | 19 (70.4%) | 57 (70.4%) |
| Total | 27 (100%) | 27 (100%) | 27 (100%) | 81 (100%) |

## Table 3

A Comparison of Self-Estimates of Reading Ability and Scores on the Reading Subtests of the Coop. English Test by Those Who Claimed Average Reading Ability. N = 48

| Self-Estimate of Reading | Reading Subtests | | | Totals |
|---|---|---|---|---|
| | Voc | Speed | Comp | |
| Uuder-Estimate 7-9 | 7(14.6%) | 13 (27.1%) | 6 (12.5%) | 26 (18%) |
| Average-Accurate 4-6 | 16 (33.3%) | 9 (18.7%) | 14 (29.2%) | 39 (27%) |
| Over-Estimate 0-3 | 25 (52.1%) | 26 (54.2%) | 28 (58.3%) | 79 (55%) |
| Totals | 48 (100%) | 48 (100%) | 48 (100%) | 144 (100%) |

## Table 4

A Comparison of Self-Estimates of Reading Ability and Scores on Reading Subtests of the Coop. English Test by Those Who Claimed Poor Reading Ability. N = 25

| Self-Estimate of Reading | Reading Subtests | | | Totals |
|---|---|---|---|---|
| | Voc | Speed | Comp | |
| Under-Estimate 4-9 | 9 (36%) | 11 (44%) | 6 (24%) | 26 (35%) |
| Poor-Accurate 0-3 | 16 (64%) | 14 (56%) | 19 (76%) | 49 (65%) |
| Total | 25 (100%) | 25 (100%) | 25 (100%) | 75 (100%) |

confirms what is observable. The observed $t$ = 7.97; while 5.05 = 1.96.

The fourth and final question which served to focus this study was: Are there any characteristics peculiar to those students who accurately estimate their reading ability? Overestimate their reading ability? Underestimate their reading ability?

In order to make a clear distinction between those students who are accurate, those who overestimated, and those who underestimated their reading ability, it was decided to use the data of only those students who had accurately estimated, overestimated, or underestimated both comprehension and vocabulary. Inspection of the data summarized in Table 5 showed (1) that one of the three major estimator groupings contained too few students to consider in an analysis, that is, there were only four Under-estimators of reading ability; and (2) that Over-estimators (Total) and Accurate Estimators (Total) differ significantly only in the percentage of Mothers with College Education; that is, significantly fewer Mothers of Over-estimators of their reading ability had a College Education, $t$ obs. = 2.2, $t_{.05}$ = 1.96.

Inspection of the summary data in Table 5 further showed that differences were apparent within the Accurate Estimators. Specifically, the Accurate, but Poor estimators differed from the other Accurate Estimators and the Poor Estimators in (a) amount of study time --more--$t$ obs. = 1.989, (b) rating of

Table 5 Selected Characteristics of Over-, Accurate-, and Under-Estimators of Own Reading Ability

| Self-Estimate Of Reading | | Student Characteristics | | | | |
|---|---|---|---|---|---|---|
| | | College Educ. Father | College Educ. Mother | Note Taking Est. (Gd & Av) | Study Time (Wk. $\bar{X}$) Hours | Positive Self-Image |
| Over-Estimate | Good (N = 14) | 57% | 21% | 100% | 6.39 | 93% |
| | Ave. (N = 20) | [a]41% | [c]16% | 90% | 10.18 | 80% |
| | Total (N = 34) | [b]50% | [d]18% | 94% | 8.62 | 85% |
| Accurate Estimate | Good (N = 5) | 60% | 80% | 100% | 7.40 | 100% |
| | Ave. (N = 7) | 43% | 14% | [e]86% | 9.30 | 86% |
| | Poor (N = 13) | 54% | 46% | [e]100% | 14.19 | 54% |
| | Total (N = 25) | 52% | 44% | 96% | 10.90 | 72% |
| Under-Est. | Ave. & Pr. (N = 4) | 75% | 75% | 75% | 7.75 | 100% |

a. N = 17, due to incomplete student information.
b. N = 19, due to incomplete student information.
c. N = 30, due to incomplete student information.
d. N = 33, due to incomplete student information.
e. Ave. only.

self-image--less--t obs. = 2.596, and (c) percentage of average estimations of notetaking ability--100%.

## Conclusions

The first of the four major questions which served to focus this study was "Can students accurately estimate their own reading ability?" The answer is a qualified, "Yes." The qualification is that but three-fifths of the students estimated one of the three reading skills correctly. In addition, they were as likely to overestimate the remaining skills as to be accurate. They did not frequently underestimate their skills.

The second question was "Is self-appraisal of reading ability more closely related to comprehension, speed, or vocabulary?" The answer is "The students in this study were not more accurate in their estimations of comprehension and vocabulary than their estimations of speed.

The third question was "Which group of self-appraisers, poor, average, or good, is most accurate?" The answer is "Students who estimated their skills as 'poor' were more likely to be accurate than other students and were most likely to be accurate about comprehension and vocabulary."

The fourth question was really in three parts. The first part was "Are there any characteristics peculiar to those students who were accurate in estimating their poor reading ability?" Those students who were accurate in estimating their poor reading ability were unique in three ways: (a) ALL claimed average notetaking ability, while reading and notetaking self-estimations for other students were usually at identical levels. (b) Although the students in general rated themselves as having a better than Negative Self-Image, the Self-Images of students who were accurate about their poor reading were the poorest of the Total Sample. (c) Their claims for study time per week were significantly higher than the claims made by others.

The next part of the fourth question was "Are there any characteristics peculiar to those students who overestimate their reading ability?" Two comments seem pertinent here. First, those who overestimated their reading ability and those who were accurate about the average or above-average development of their reading skill made similar claims about study time. Or to put it in the vernacular, "Those who think they have it, act just like those who really have it." Second, since the percentage of Mothers who attained a College Education was lowest for those who overestimated their ability, it is possible that academic standards within the home were lower and that this contributed to the overestimation.

Finally, since the students did not tend to underestimate themselves, it is obvious that the characteristics of that group cannot be pointed out here

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# THE RELATIONSHIP OF READING AND WRITING INSTRUCTION AT THE COLLEGE LEVEL

by
Barry M. Kroll
The University of Michigan

The relationship between reading and writing is a thorny topic for many people. Part of the problem in seeing clear connections, I think, arises from a paradox in the relationship between reading and writing. From one point of view, they seem clearly related; from another perspective, they appear quite distinct. Reading and writing are similar in a number of ways: both are secondary language modes, both are learned much later than are speaking and listening, and both are essentially school-taught skills. The fact that reading and writing are print-oriented skills inclines one to seek connections between them. On the other hand, reading is a receptive language skill, while writing is a productive or expressive skill. Reading involves extracting meaning, while writing involves encoding meaning. This functional difference is a basis for identifying some basic differences between them.

I want to try to escape this paradox by looking at reading and writing in another way. Let me begin, however, by discussing some basic principles involved in speaking and listening. It is clear, I think, that speakers and listeners, solely from their own point of view, have very different needs in a communication situation. From the speaker's point of view, anything that makes speaking easier is right for him. This means *that the speaker's* natural tendency is to slur over endings, to run words together, to speak in elliptical phrases, and to employ a very basic, sometimes idiosyncratic vocabulary.

But, of course, these tendencies must not go to extremes because the listener has needs too. From the listener's point of view, language should be easily understood, and maximally redundant. This requires that speakers should enunciate clearly, use fully formed sentences, and should employ exact lexical items. The demands of speaker and listener find an amicable balance for the very good reason that people want and need to promote efficient understanding.

We will now apply this model to the skills of reading and writing. In some ways, the roles of writer and reader are, like those of speaker and listener, opposed in terms of demands. The writer already knows what he wants to communicate; he has no need for elaborate or accurate encoding. For the writer, like the speaker, the natural tendency is to focus on his own demands. This results in such phenomena as writing in psychological order; (the first idea in the writer's head is the first idea in the essay), using ambiguous references; (the referents are clear in the writer's mind only); failing to provide a thesis statement the writer already knows the essence of his communication; deleting markers of coherence (transitions are clear to the writer's mind); and providing few supporting details (the writer has already made up his mind--he doesn't need such evidence). A piece of writing with these so-called "faults" will still seem perfectly clear and cogent to the writer. Such writing may be quite acceptable in the case of personal notes, diaries, and much self-reflective verse or prose, but the reader, who has only a tentative hypothesis about the writer's thought, requires a fuller, more explicit communication.

Viewed in terms of the role of reader and writer, several traditional aspects of composition seem more a part of reading than writing. The reader, not the writer, needs a thesis, clear reference, coherence, and evidence. The task of the writer is to supply these reader needs. An additional factor for the writer to consider is the fact that he has no face-to-face contact and feedback to guide his message production. He has to imagine his hypothetical audience, he must be both writer and reader simultaneously if he wishes to be effective.

This need to consider a reader's needs when writing cannot be too much emphasized when one realizes that children are rather poor at making inferences about what is going on inside another person's head. As early as 1923, Piaget recognized this truth and characterized children's communication as "egocentric," meaning that children failed to adapt their messages to the needs of others. John Flavell found that the ability to assume another's role develops gradually throughout middle childhood and contributes to improved communicative competence. Krauss and Glucksberg, using a different experimental paradigm, showed that the child is far from proficient at referential communication tasks, primarily because of an insensitivity to the needs of the listener.

There is considerable anecdotal evidence, that even older children (indeed, some college students) are not adequately proficient at adapting their compositions to the needs of the reader. One explanation for this phenomenon is that students become centered in the role of the "writer" purely as the producer of ideas encoded in words. Some of the problems of writers may stem not from the fact that they are bad at playing the role of writer, but that they are poor at the role of reader--unable to put themselves in the reader's shoes. By failing to understand or utilize the role of reader, they literally tend to write for themselves. The writer must see himself as both "writer" and "reader" simultaneously; he must play both roles in the set of effective composing. This suggests that it is difficult, perhaps even damaging, to separate reading and writing in our conceptions of the composing process. Reading and writing can be viewed as two sides of the same communication coin. In teaching writing, we must train our students to think as readers.

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# The Effect of Modeling Classroom Management Principles in a Graduate Class on Reading Toward Implementation in Teacher's Own Classes

by

Rowena M. Wilhelm, Ph.D.
The University of Michigan

This study was undertaken to test two hypotheses: 1) that a rule enforcement procedure of classroom management, whose effectiveness had been previously demonstrated in usage with children, would be effective in modifying the behavior of adults, and 2) that the feedback necessary to increase the instructor's frequency of rule enforcement could be provided by a subordinate.

## POPULATION

The participants in the study were as follows:

1) A group of students, all of whom were professional teachers enrolled in graduate courses in reading education. They were divided between two classes; Education C-591, Techniques of Diagnosing Reading Disorders and Education C-592, The Reading Practicum Diagnosis and Treatment of Reading Disabilities. There was some population overlap between the two groups. (Total population = 63)
2) The Director of the Reading and Learning Skills Center, the instructor for both classes.

3) A staff member of the Reading and Learning Skills Center.

The project developed from a discussion relating special needs of two persons. The instructor's purposes for participating in the study were as follows:

1) Provide a graduate student staff assistant with a required behavior modification project as a stimulus toward,
2) modeling classroom management principles.

The graduate assistant's objectives for project were to fulfill a course requirement by the following:

1) A behavioral extinction curve will be validated by the implementation of rule enforcement procedures.
2) Given a stated objective agreed to by the authority figure, a subordinate will modify the behavior of the authority figure to accomplish the objective.
    a) The number of rule tests by the students will be decreased.
    b) The percentage of rule enforcement will be increased.

## PROCEDURE

The specific rule used was, "One person at a time talking." This rule was selected by the instructor as probably appropriate for graduate students. The instructor had not used any rule enforcement procedures with college classes prior to this study. The conditions which would constitute a violation of the rule and correct enforcement procedures were agreed to in advance and specified in writing. The duration of the study was, in both cases, four weeks which consisted of fourteen one-hour sessions with one group of students and sixteen two-hour sessions with the second group.

The rule enforcement agreed upon and criteria used are below:

1) The behavior (rule enforcement) has not previously occurred.
2) The rule must be enforced whenever two or more people speak at the same time.
3) If class is opened by saying, "The rule please," this instance will be considered neither violation nor enforcement.
4) If, following a natural pause in discussion, two people begin to speak simultaneously, this will not count as an infraction provided deferment to one speaker occurs spontaneously (i.e., within 3 seconds).
5) Rule enforcement will consist of one and only one of the following phrases: "The rule please," "What's the rule?" or "One at a time." Use of any other statement or any more than the pre-determined one of these three statements will constitute non-enforcement.
6) Enforcement must consist of the statement alone. To cause talking to stop by means of stopping one's own talking, by raising one's own voice to override other conversation, or by use of one's eyes (i.e., "glaring") is non-enforcement. If any of these gestures accompanies correct verbal rule

enforcement, the rule is considered to have been only half-enforced (i.e., no paired associate responses will be given full credit).

7) Any movement of the lips directed at another person constitutes talking--a whispered comment, no matter how brief, is a violation of the rule.
8) Feedback to be provided by a subordinate should also have a period, perhaps ten minutes, during which the instructor turns the discussion over to the class and does nothing but enforce the rule, charting his/her own class violations and teacher enforcements.

Feedback to the instructor was provided by three graphs for each class. (Figures 1, 2, 3) These were:

1) A daily graph showing the number of violations which occurred in each session.
2) A cumulative graph showing the number of violations and the number of rule enforcements per day.
3) A daily graph of the percentage of rule enforcement obtained by dividing the number of violations by the number of enforcements.

The data obtained from the graphs validated the two hypotheses. That is, (1) rule enforcement decreased the frequency of rule testing behavior by the graduate students, with the graph following a normal extinction curve and (2) feedback, provided by a subordinate, established consistency of the instructor's

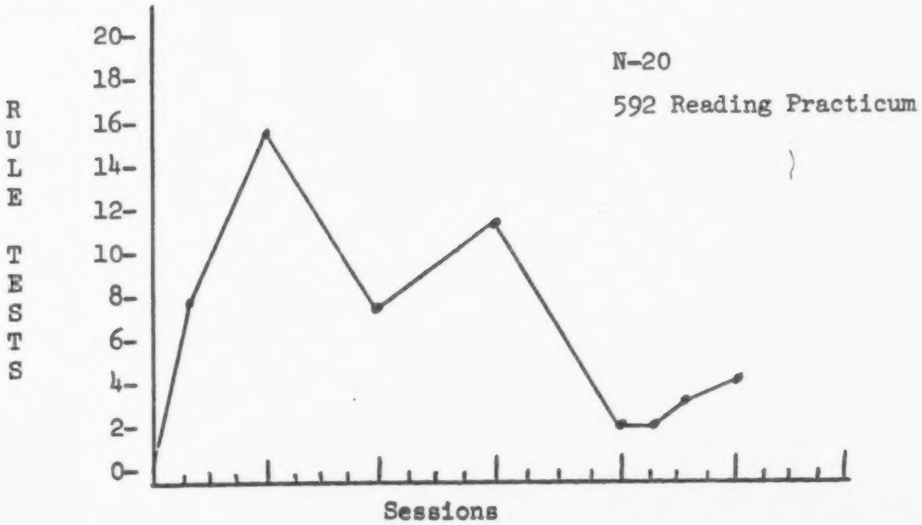

Figure 1: Daily graph showing the number of violations and the number of rule enforcements per day.

Wilhelm

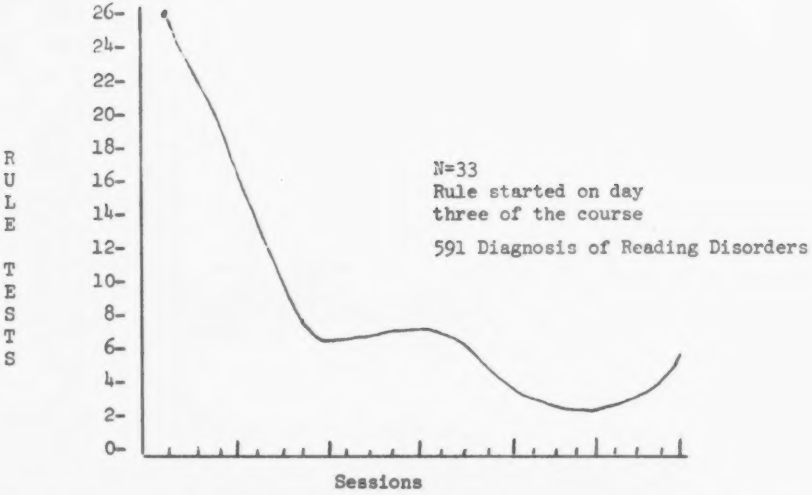

Figure 2: Cumulative graph showing the number of violations and the number of rule enforcements per day.

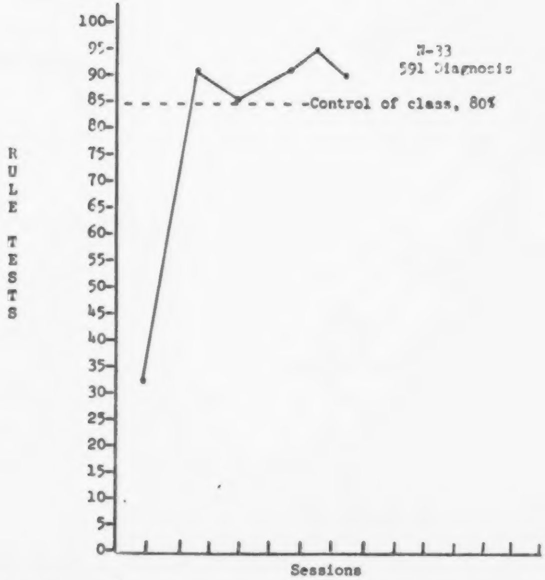

Figure 3: A daily graph of the percentage of rule enforcement obtained by dividing the number of violations by the number of enforcements.

frequency of rule enforcement. The graphs shown in figure 1, 2, and 3 are simulated graphs. The original graphs were destroyed in fire following presentation at a conference.

A survey was administered to all students at the end of the courses inquiring as to their opinions regarding the rule at various points in the course, how this rule enforcement compared to their normal procedure, and whether or not they planned to use rule enforcement as modeled.

The results of the survey (see Table 1) demonstrated the following:

1) That there occurred a favorable change of attitude on the part of most of the teachers involved who initially felt negative toward using rule enforcement as an aid to reading achievement.
2) Some teachers indicated that the modeling convinced them of the value of consistency (Table 1).

## RESULTS

As a consequence of the study, the instructor has continued using the rule "One person talking at a time" in subsequent classes. The reasons given were as follows: (1) my objectives for the day are achieved with time for questions and, (2) discussions tend to involve more participants since more class members are attending to what is being said by others. Many of the graduate students have reported implementing the rule in their various grade level classes with increased task achievement. In some instances, these teachers (Dulemba, Peacock, 1975) have reported that their class members have quietly, gradually, and successfully taken over the enforcement of the rule. These teachers have also reported that students have been making positive comments concerning the increases in achievement of the class, as well as of individuals.

Table 1

Attitudinal Survey

A. What was your initial response to the announcement that there would be a class rule "One person at a time talking"?

32 Positive Responses

1. Seemed reasonable
2. Reasonable
3. Accepted as logical
4. O.K.
5. Grateful that there would be no interference from talkative members
6. Good rule because individuals talking interfere with lectures
7. Good rule
8. Thought it excellent idea since a classroom leads to a disorganized state
9. Good

10 At first we didn't hear the announcement but I prefer no talking

11 I was already familiar with technique from Smith's classes

12 Good

13. Good idea
14. Good--she's going to model Classroom Management
15. Positive because I sometimes have difficulty hearing
16. I liked it. Used to it from Smith
17. Not important
18. O.K.
19. O.K.
20. It seemed alright but I didn't think you were serious
21. I thought it was a token announcement
22. I accepted, felt no hostility because I felt there was a purpose behind it
23. Fine, I am here to learn
24. Reasonable
25. Great
26. She has read Smith's Classroom Management
27. Reasonable
28. Good
29. Glad--because I was in the
30. back of the room
31. Provides an excellent learning atmosphere. Encourages each of us to be more polite. I've made it a habit to sit near the front while taking classes, because of the "talky" atmosphere some Profs. allow.
32. I'm glad you have been enforcing the rule. I am able to hear what is happening and other people are not disturbing me to ask something you

you have just said. Great for me!
This has helped me control my own talking to avoid a rule enforcement.

15 Negative Responses

1. Angry, resentful bewilderment
2. Kind of silly
3. A bit uneasy
4. Wondered why necessary--usually students will be quiet on their own
5. Disappointment--sounded like elementary school, "sit in your seats, mouth shut until I call on you"
6. Insulted
7. Childish. It reminded me of being in elementary school
8. Bothered me at first--thinking it was childish
9. I hated it with a passion!
10. Disturbed and ill at ease
11. Disbelief, indignation, felt insulted
12. It seemed non-professional. I felt kind of insulted
13. Resentment
14. Annoyance which increased over the 4th session to real resentment. In my thinking I projected my feeling onto future students in my own classroom and was very concerned that they too would feel this deep resentment to rule enforcement and would react in some external manner.

    Following the 4th session my feelings of resentment began to until at the end of approximately six sessions , I simply accepted the rule enforcement as a reminder and not a negative behavior on the part of the instructor.

Classroom discussion at a later date relieved my concerns about negative student reaction, i.e., that adults seem to react more strongly and are less accepting of rule enforcement than are students who accept rules as appropriate.

15. Initial response: I felt it was condescending and I resented strongly in a negative way. It was good because I realized how students feel when corrected especially when they are not the source of the disturbance. Perhaps a more initial in-depth discussion of the rule and the reason for adoption. Terminal response: It is an effective tool for classroom management. When rule enforcement was lax for one day, I had difficulty with hearing the discussion.

B. How Does "Rule Enforcement" Compare With Your Normal Classroom Procedure?

1. I wait for attention--feel rule enforcement would be good for me.
2. I isolate or call attention to an infraction. This seems a much easier way to keep order, less an emotional attack on the child. They won't have to feel they are winning or losing. I think my kids would like it better.

3. Basically the same. Respect the rights of others includes more.
4. Same. Need some type of structure. This is as good as any other I have found. My classroom functions much better with it.
5. Call a person's name. This is a generalized rather than personal reproach.
6. Not teaching. I really didn't believe it would work but it has for this class. I'm not sure it would for E.D. children.
7. Compares well
8. It's better
9. Have tried different ways. This is good. I tried it once before but it didn't survive the testing of a wild 7th grade class who made posters saying "The rule is one person talks at a time" and marched around the room. Since I know more about it, I'm going to try it again.
10. A look or "Quiet please"
11. Much the same
12. Sit patiently until I have attention
13. Rules which I now see were changed too often, were too long, and too many as well as inconsistently enforced.
14. Use points instead of grades. Subtract points for undesirable behavior.
15. Similar. This is better than my set of rules because less verbal behavior is required.

16. Set of rules--"Students please"--slip once in a while. A lot of behavior Mod with positive reinforcement.
17. "We don't do that"
18. Depends on circumstances
19. Call a student by name, "No talking John"
20. Very strict
21. Same for groups, no talking during work, quiet voices at activity centers.
22. Respect others--but have not been consistent
23. Raise hand to speak
24. Sporadic
25. About the same, but it is more polite to say "Rule please" than "class," "class," "CLASS", "SHUT UP".
26. Rules
27. Restate "Remember that one person talks at a time"
28. Same
29. Silence on my part
30. Modified (confess to inconsistency)
31. Simple rules and reminding
32. Set of rules weakly enforced. The consistency is more effective.
33. Have tried different procedures--none successfully
34. Waving and hand signals
35. Tell kids they can't talk unless they raise their hands.

C. Final Survey. Do you plan to use "Rule Enforcement"?

Yes--------------------35

Modified version------- 3

Undecided*------------- 4

No--------------------- 2
(one respondent, "tried one week, it didn't work")

*Note: One of the "undecided" is now in the "yes" group. He reported that he uses rule enforcement in all classes with consistency.

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# HOW CAN WE ENSURE COMPETENCIES TO READING INSTRUCTORS?

## Part I
## MATCHING A HIERARCHY OF COMPETENCIES TO UNDERGRADUATE AND GRADUATE COURSE LABELS

Wayne A. King
Office of Instructional Services
School of Education
The University of Michigan

## Part II
## PROVIDING SELF-INSTRUCTIONAL MODULES

Richard Ballard
Huron High School
Ann Arbor, Michigan

## Part III
## PROVIDING PRACTICUM EXPERIENCES

Marylen Oberman
Reading and Learning Skills Center
The University of Michigan

## Part IV
## PROVIDING INTERNSHIP EXPERIENCES

Laurice Bissell
School of Education
The University of Michigan

### INTRODUCTION

This panel presentation describes four major components of a competency based system of training students in reading curriculum at the undergraduate and graduate levels. The program is a product of some five years of intensive development by the Reading Committee, consisting of faculty and students at the School of Education, The University of Michigan.

# MATCHING A HIERARCHY OF COMPETENCIES TO UNDERGRADUATE AND GRADUATE COURSE LABELS

Wayne A. King
The University of Michigan

I should like to begin with the development of the competencies which define this program. A list of competencies was made available to students in May 1974. Two checklists of competencies, one for the undergraduate program and the other for the graduate program, grouped competencies under the categories, Basic, Diagnostic, Treatment, Consulting and Career Development. They also included possible delivery systems, particularly where self-instructional modules were available. Because the competencies were arranged hierarchically, pre-requisites were also listed for each one. Unfortunately, the competencies were not assigned to specific courses. Implementing this program was difficult, since students did not know how to use the checklists, instructors could not be certain who was responsible for each competency and the competencies themselves were inadequately defined. Use of the checklists was short lived. The competencies became better defined, partly by further development of the delivery system. For example, self-instructional modules were developed to provide given competencies. These came to be used primarily in one or another course, and thereby "attached" the competency to the course. Later in 1974, the committee assigned all competencies to the appropriate courses within the reading curriculum. This in itself was not enough to guarantee that the competencies would be delivered; however, it did prove to be the critical step in the process: instructors became accountable for particular competencies.

For the 1975-76 year the Reading Committee published a brochure of Graduate Reading Programs which listed the core competencies. It was this event, a "paper promise," that guaranteed a system to deliver the competencies.

The wheels turned rapidly and the result was a two volume Competency Inventory, undergraduate and graduate. These contain some 48 competencies, divided into five categories and distributed among seven core courses. (Fig. 1, p.189) The inventories specify ways in which competencies may be attained and include standards to be met. The question then remained: How will the competency inventories ensure the acquisition of competencies by students in the reading programs? The answer is multi-faceted.

1) A management plan for using the inventories was agreed upon by the committee and has been made available to both students and instructors. (Fig. 2, p. 192)

2) Competencies are listed by course. Students and instructors know at a glance which competencies are developed and when.

3) Competencies are arranged hierarchically within each course, thus providing an efficient sequence for the development of skills and a simple program planning document.

4) Minimal performance criteria are objectively stated for each competency. Both student and instructor know exactly what is required. (Fig. 3, p. 194)

5) The method of evaluation is matched to the performance for each competency.

   Written exams are used to measure cognitive information, for example, to define terms, list the steps, etc.

   Observation checklists are used to measure teaching performances such as demonstrating classroom management techniques.

   Product checklists are used to measure production skills, for example, design a lesson plan.

6) Competencies are passed by 100% mastery only. (Fig. 3, p. 194)

7) Feedback loops are provided:

   Students keep the evaluation checklist and the overall Progress Chart.

   Instructors respond to the evaluation checklist and keep an overall Record Sheet.

In summary, these seven points represent the implementation plan. The Fall semester, 1976, is the first time the graduate inventory is being used systematically. Surely the developmental process is not yet complete. Provision is made for continuous revision. Nevertheless, I am confident that the use of instruments such as the Competency Inventory will be instrumental in providing competencies to reading educators and educators in general.

## Figure 1: A Complete List of Competencies

| SKILL AREA | | COMPETENCY TITLE | NUMBER |
|---|---|---|---|
| DOMAINS | ☐ | Use Technical Terms | 510-1 |
| | ☐ | Describe Learning to Read and Write by Means of an Information Processing Model | 510-2 |
| | ☐ | Describe the Role of Feedback in Learning Systems | 510-4 |
| | ☐ | Describe the Hierarchy of Language Skills for Reading and Writing | 510-5 |
| | ☐ | Critique Titles from Current Literature on Diagnosing Reading, Writing, Listening and Speaking Deficits | 591-2 |
| | ☐ | Compare Norm-Referenced and Criterion | 591-5 |
| | ☐ | Critique Titles from Current Literature on the Remediation of Reading, Writing, Listening and Speaking Deficits | 592-1 |
| EVALUATION AND DIAGNOSIS | ☐ | Evaluate, Administer, Score and Interpret Formal and Informal Reading Tests | 468-11 |
| | ☐ | Research and Evaluate a Reading Test | 591-1 |
| | ☐ | Select Tests for Diagnosing and Solving Reading, Writing, Listening and Speaking Deficits | 591-4 |
| | ☐ | Administer, Score and Interpret a Visual Screening Test | 591-6 |
| | ☐ | Administer, Score and Interpret an Auditory Screening Test | 591-7 |
| | ☐ | Write a Diagnostic Evaluation | 591-8 |
| | ☐ | Select Instruments to Diagnose Deficits in Reading, Writing, Listening and Speaking | 591-9 |
| | ☐ | Perform a Diagnostic Evaluation | 592-1 |

| SKILL AREA | | COMPETENCY TITLE | NUMBER |
|---|---|---|---|
| DEVELOPING INSTRUCTION | ☐ | Evaluate and Design Instructional Strategies for Vocabulary Development | 468-2 |
| | ☐ | Evaluate and Design Instructional Strategies for Teaching Listening Skills | 468-3 |
| | ☐ | Evaluate, Select and Design Instructional Strategies for Speech Skills | 468-4 |
| | ☐ | Evaluate, Select and Design Instructional Materials and Strategies for Oral Interpretation Skills | 468-5 |
| | ☐ | Evaluate and Design Instructional Strategies for Handwriting Skills | 468-6 |
| | ☐ | Evaluate and Design Instructional Strategies for Teaching Beginning Reading Skills | 468-7 |
| | ☐ | Design Instructional Strategies Using a Basal Reader | 468-8 |
| | ☐ | Evaluate and Design Instructional Strategies and Materials for Reading Comprehension Skills | 468-9 |
| | ☐ | Design Instructional Strategies for Teaching Study Skills | 468-10 |
| | ☐ | Evaluate and Design Instructional Strategies for Spelling Skills | 468-12 |
| | ☐ | Evaluate and Design Instructional Strategies for Grammar and Usage Skills | 468-13 |
| | ☐ | Evaluate and Design Instructional Strategies for Composition Skills | 468-14 |
| | ☐ | Evaluate and Design Instructional Strategies for Teaching Dramatics | 468-15 |
| | ☐ | Evaluate and Design Instructional Strategies for Teaching Standard English to Non-Standard Speakers | 468-16 |
| | ☐ | Recognize and Produce Instructional Tasks for Single and Cross-Modality Processes in Reading and Writing | 510-3 |

| SKILL AREA | | COMPETENCY TITLE | NUMBER |
|---|---|---|---|
| | ☐ | Do a Cost-Benefit Analysis of Instructional Material | 510-6 |
| | ☐ | Design an Instructional Plan for a Content Area Learning Unit | 540-2 |
| | ☐ | Design Instructional Components to Ensure Mastery of a Content Area Criteria Test | 540-3 |
| TREATMENT PROCEDURES | ☐ | Demonstrate Self-Improvement in Language Skills and Knowledge of English Linguistics | 460-1 |
| | ☐ | Demonstrate Self-Improvement in Reading and Writing Skills | 540-1 |
| | ☐ | Conduct and Evaluate a Content Area Learning Unit | 540-4 |
| | ☐ | Learn five (5) Clinical Instructional Techniques for Remediation | 591-3 |
| | ☐ | Employ Instructional Techniques in a Clinical Setting | 592-3 |
| | ☐ | Demonstrate Use of Teacher Self-Management Techniques | 592-4 |
| | ☐ | Demonstrate Use of Classroom Management Techniques | 592-5 |
| | ☐ | Select Instructional Procedures to Correct Deficits in Reading, Writing, Listening and Speaking | 592-6 |
| CONSULTING | ☐ | Write a Final Report on the Results of Clinical Interventions | 592-6 |
| | ☐ | Design a Plan for a Client which is Operable in the Regular School Environment | 592-7 |
| | ☐ | Operate a Language Resource Center (this Competency Contains ten sub-competencies. See the Learning Resource Unit Handbook) | 693-1 |
| | ☐ | Consult on an Innovative Program | 693-3 |
| ADMINISTRATION | ☐ | Operate a Language Resource Center | 693-1 |
| | ☐ | Operate an In-Service Training Workshop | 693-2 |
| | ☐ | Prepare a Program Proposal | 693-4 |

## Figure 2
## Instructions For Use of the Inventory

### TO STUDENTS & TO INSTRUCTORS

*What is it?*

The COMPETENCY INVENTORY consists of a

PROGRESS RECORD (next page) and

COMPETENCY DESCRIPTORS arranged by course

Each COMPETENCY DESCRIPTOR contains two sections:

To the Student

To the Evaluator

The student's section describes the competency and a method by which it is developed and demonstrated.

The evaluator's section defines the standards by which the student's product is evaluated.

*How is it used?*

The booklet will serve as an overview of the total program, viewed from a paper perspective. In addition, the student can use it to preview courses and to keep a running check on progress by means of the PROGRESS RECORD.

However, a more systematic method of use is required in day to day operations.

*See next page*

STUDENT → The student uses the COMPETENCY DESCRIPTOR to determine tasks to be completed and resources available for use.

STUDENT → On completion of a product, the student will use the "Evaluation Checklist":

S/he will respond to each entry by checking Yes or No (✓). When all Yes's are checked, the item is ready to be submitted.

STUDENT → Attaches the DESCRIPTOR page(s) to the product (by paper clip) and turns in to the instructor.

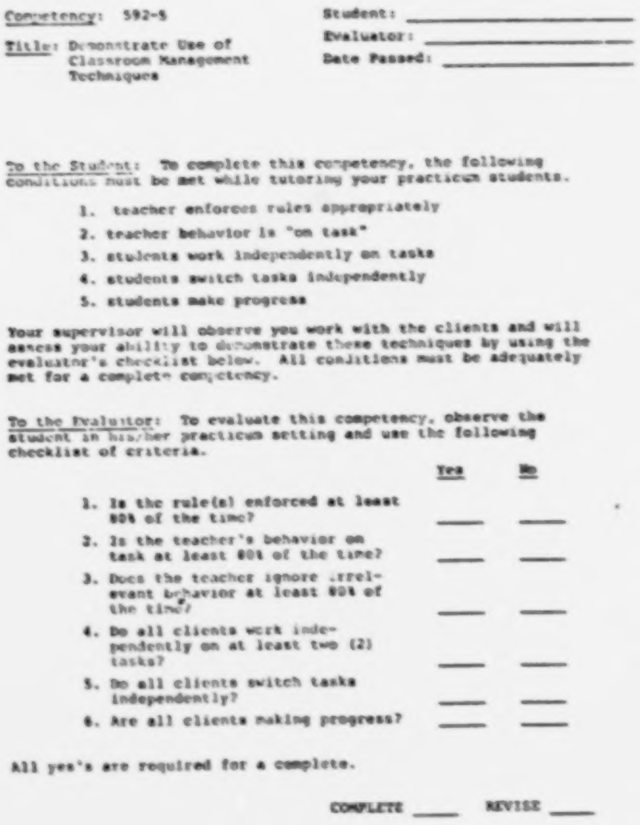
INSTRUCTOR → Reviews Product and Evaluation Checklist to verify the student's evaluation.

- If complete, indicates by initialing COMPLETE ______.
- If incomplete, indicates by checking No (✓) and REVISE __✓__.

INSTRUCTOR → Turns product back to student.

STUDENT →
- If COMPLETE ______, replaces the DESCRIPTOR page in the booklet and checks "Date Completed".
- If REVISE __✓__, does so and resubmits product.

Figure 3
Example Competency Descriptor



**Competency:** 592-5

**Title:** Demonstrate Use of
Classroom Management
Techniques

Student: ____________________
Evaluator: ____________________
Date Passed: ____________________

**To the Student:** To complete this competency, the following conditions must be met while tutoring your practicum students.

1. teacher enforces rules appropriately
2. teacher behavior is "on task"
3. students work independently on tasks
4. students switch tasks independently
5. students make progress

Your supervisor will observe you work with the clients and will assess your ability to demonstrate these techniques by using the evaluator's checklist below. All conditions must be adequately met for a complete competency.

**To the Evaluator:** To evaluate this competency, observe the student in his/her practicum setting and use the following checklist of criteria.

| | Yes | No |
|---|---|---|
| 1. Is the rule(s) enforced at least 80% of the time? | ____ | ____ |
| 2. Is the teacher's behavior on task at least 80% of the time? | ____ | ____ |
| 3. Does the teacher ignore irrelevant behavior at least 80% of the time? | ____ | ____ |
| 4. Do all clients work independently on at least two (2) tasks? | ____ | ____ |
| 5. Do all clients switch tasks independently? | ____ | ____ |
| 6. Are all clients making progress? | ____ | ____ |

All yes's are required for a complete.

COMPLETE ____ REVISE ____

# PROVIDING SELF-INSTRUCTIONAL MODULES

Richard Ballard
Huron High School
Ann Arbor, Michigan

One means of providing students with the competencies described by King is by using self-instructional modules. Instruction by module is superior to instruction by lecture in several ways.

First, self-instructional modules provide a model of the teaching behaviors that professors want teacher trainees to develop, that is, using individualized materials. Students in education courses frequently point out that many education instructors tell future teachers to individualize while the instructor runs a traditional lecture course.

Second, students like it. Kulik (1974) reported that an overwhelming proportion of students preferred self-pacing courses to lecture courses. Self-instructional modules provide a means for students to pace themselves through a course.

Third, the use of self-instructional modules frees in-class time for activities other than transmitting information on basic skills. Instructors can focus on more advanced activities, provide time for students to do micro-teaching under supervision, engage in discussion about the material taught in the module, or present new or related findings.

Fourth, the ever rising cost of textbooks has caused concern among many instructors. They are reluctant to assign multiple texts for a course when those books may each cost fifteen dollars or more, and, in all likelihood, the texts do not provide the information students need anyway. On the other hand, modules cost students about a dollar and, because the modules were developed by instructors and students, they contain the information students need.

Fifth, modules provide a means for those responsible for establishing course identity to control the content when the course is taught by personnel outside the University. Extension courses, undergraduate courses, and evening courses are frequently taught by staff who are not regular full-time University faculty. The use of modules in those courses insures the faculty and the students that content deemed essential for their courses will be taught in the courses.

Finally, modules provide a means for mastering competencies when not enrolled in a course. Frequently, graduate students have completed their undergraduate work at other institutions. These students can complete competencies that are pre-requisites for graduate courses by doing modules.

One of the most demanding and highly rated courses in the reading sequence at the University of Michigan is "C-592 - Diagnosis and Treatment of Reading Disorders; A Practicum."

In 1971, the instructor for the course (Wilhelm) and the director of the practicum (Ballard) were forced to assume that none of the graduate students enrolled in the course had the necessary pre-requisites. As the modules were introduced into the reading program and began to be used by instructors, this situation changed: pre-inventory performance in C-592 improved with nearly all students now showing mastery of the pre-requisites; in-class time was reduced from four hours per week to two hours per week; the practicum portion of the course was extended from six weeks to eight weeks; in-class time is now devoted to more advanced activities, more guest speakers, and more presentations by students.

The office of Instructional Services has been gathering data on module production and use since 1972. Their data show that in 1972, 1,300 modules were purchased, while in the 1975-76 school year, 13,365 modules have been purchased. The modules are used in eleven courses on campus, six extension courses, and ten other colleges and universities around the country.

In 1975, a survey of graduate and under-graduate students showed that 70% of the undergraduates prefer using modules while only 18 percent preferred lecture courses. The graduate students preferred modules (87%) over lecture courses (9%) also. Not only do students prefer modules but they demonstrate mastery in courses that use modules. D.E.P. Smith and Audrey Goman have collected data on student performance in their courses that use modules. They report that Goman's students completion rate, that is, students who demonstrate mastery and received an "A" for the course, is over 97 percent. Smith's students completion rate is over 95 per cent.

While the modules are a valuable, popular learning tool, some considerations must be made before plunging into the production and use of modules. For example, modules must be developed by individuals who understand and can develop criterion-validated instruction. The modules must be developed around mastery tests. The instruction must then be designed so that students demonstrate mastery on the tests. The tests must be, as much as possible, a reflection of the real world. Individuals developing modules must be willing to operate from an instructional technology point of view. That is, student performance must provide the measure of effectiveness of the instructional material. If students do not perform well, the instruction must be modified. Training of instructors in the development and use of modules is essential.

## References

Kulik, James A; Kulik, Chen-lin and Charmichael, Kevin, The Keller Plan in Science Teaching, Science, February, 1974, Volume 83, pp. 379-383.

# PROVIDING PRACTICUM EXPERIENCES

Marylen S. Oberman
The University of Michigan

As you may have noted in the program for this conference, my topic was stated as "Proving Practicum Experiences". There is a fine discrimination between the spelling and the meaning of the words "proving" and "providing", but we actually do both in our practicum experiences at the University of Michigan Reading and Learning Skills Center. We provide an opportunity for Reading Facilitators to prove that they can apply all their mastered competencies from previous reading courses to a practicum situation.

Graduate students taking this practicum have completed two or three previous reading courses or have completed a hierarchy of competencies matched to those courses by completing self-instructional modules. Each student in the practicum chooses one of three experiences:

--small group work in the clinic
--small group work in the public
school
--class work with own students

The first option consists of work with a group of 3 to 5 students at the Center for an eight week session. This session meets one hour a day, four days a week. The clients enrolled in this program range in age from 7 to 35 years and are enrolled in either a developmental reading and writing program or a study skills program.

The second option is similar to the first but is done in the public schools. The third option is designed for currently employed teachers who have returned to college to further their education, to complete a master's degree or to become a reading specialist or reading consultant. They may use the students in their own classrooms to complete the practicum experience. They can work with a group of "target" students or the entire class. All three choices employ the same competency series.

The practicum is divided into seven sections, each with a competency:

## A. ASSESSMENT

The teachers (as the graduate students will henceforth be called,) first assess each client's strengths and weaknesses in reading and writing skills. There are three Instructional Modules necessary for this assessment. They are:

1. Criterion Referenced and Norm Referenced Tests; a Comparison
2. Informal Reading Inventory
3. Administering a Reading Test

Included in this evaluation are two types of assessment instruments. The first is a summative instrument. (Wide Range Achievement Test) It is used to ascertain the students' grade and to determine appropriate instructional material. The second is a formative assessment instrument, a diagnostic or criterion-referenced test. Formative assessments are used to determine a student's skills as measured against a specified criterion. Formative assessment instruments provide:

1. information for designing or selecting instructional materials
2. data for determining the effectiveness of instructional procedures
3. data for estimating progress achieved by the student

## B. WRITING OBJECTIVES

The second phase of the practicum experience is the writing of specific instructional objectives. These objectives are based on teacher evaluation of the client's diagnostic battery. The teacher will have completed the instructional module Recognizing and Producing Behavioral Objectives before moving into this phase of the practicum. After completing the module, the teachers choose five or six skill areas for each student to work on during the program and set specific objectives for each student to reach.

## C. INSTRUCTIONAL DESIGN

The third phase of the practicum involves instructional design. The instructional modules to ensure competency in this area are:

Programmed Spelling

Discrimination Programming

Strategies for Individualizing Instruction in Content Areas

- An Exercise to Improve Quantity and Quality of Writing
- Teaching the Picture/Text Survey
- Doing an Oral Reading Exercise
- Prescribing for Deficits in Reading and Writing

Many of these modules will have been completed as part of previous course requirements.

## D. SETTING UP A FEEDBACK SYSTEM

Teachers complete a module, Designing and Using Feedback Forms. They are encouraged to select or design instructional programs which meet the stated objectives for each student. The instructional programs must consist of "do-able" tasks and have a feedback system for the client to record progress and set goals.

## E. CLASSROOM MANAGEMENT

Once classes have been established, the teachers are required to provide a consistent, predictable and stable environment. This is the fifth phase of gaining a competency in a practicum situation. The management technique they use in the practicum is based on a model developed at the Center. (See Smith and Smith, Classroom Management. Random House, 1975.)

## F. MODIFICATION

Teachers meet with supervisors in weekly and bi-weekly conferences to evaluate and modify their teaching programs. Whenever the teacher or supervisor determines that a change is needed in the instructional activities, environment or teacher behavior, a modification is planned and implemented.

## G. EVALUATION

The evaluation of a student's performance in an 8-week program is based on the objectives that were set with the student after the initial diagnostic battery was completed. The teacher sets up posttests for each objective set by the student. By collecting and recording accurate initial (baseline) and final data, the teacher can demonstrate that the student met or did not meet his/her objectives.

The teacher prepares a final report including this data and makes recommendations for further instruction.

In seven specific phases, the teacher has applied previously learned competencies in a practicum situation, whether it was with a small group or an entire classroom of children. The teacher can say of the clients "This is where they were when they came to me; this was what their diagnostic evaluation was; this, in terms of specific objectives, was the prescriptive program I followed; and these are the results." The specific goal of the practicum is to insure that teachers will make all clients independent learners by providing a stable environment, specific objectives, appropriate goals set by the student and teacher, good instructional materials to meet these goals, and immediate positive feedback.

The guidelines and procedures included in this practicum experience have been used successfully to help pupils achieve beyond their present levels in reading. There have been contributions from many people, especially Rowena Wilhelm, Richard Ballard, Donald E.P. Smith, Geraldine Markel, Dale Brethower, Daryl Dickson, and the past and present staff of the Reading and Learning Skills Center.

# PROVIDING AN INTERNSHIP EXPERIENCE

Laurice Bissell
The University of Michigan

## A. NEED FOR A RESOURCE ROOM

The Language Resource Unit (LRU), a resource room containing material for teaching reading and related skills, was established in the Spring of 1973. It was designed in response to (1) the need of students to become familiar with a large variety of commercially available material for the teaching of reading and related language skills, and (2) a student concern about the effectiveness of the reading consultant in public schools.

Stimulated by questions raised in a Reading Consultant Seminar, students had voiced concerns like this: "What does consulting really mean?" "What are the best programs and materials available?" "You can't field-test all the material, so how do you know what is best?" "How *does* the reading consultant give advice?" "How do you get teachers to ask for advice in the first place?" "What's all this 'advice' task? Nobody follows advice anyway." Their reactions were intensified by rumors that the "reading consultant" was, in practice, merely a remedial reading teacher and by the spectre of the reading consultant who is never consulted.

## B. FUNCTIONS OF THE LANGUAGE RESOURCE UNIT

1. Purpose: The Unit provides an internship experience for the seminar students who staff the room for others. The seminar students act as intern reading consultants to undergraduates taking methods courses, students in reading courses, volunteer tutors, prospective content-area teachers, and students in related fields (such as special education and learning disabilities.)

The problems associated with being consulted and giving advice are gradually being reduced by providing for self-instruction; the room is designed so that the clients themselves can discover answers to their questions. In this situation, then, the reading consultant is a facilitator rather than an expert to whom people come for advice. The emphasis is on specific ways in which mateials are identified, arranged, compared, and catalogued so as to promote discovery and self-instruction by the users of the room.

2. Arrangement for Self-Instruction: The specific character of the LRU was developed by graduate-student teaching assistants and by the interns as the needs of the clients became known. For example, it was clear that the material had to be arranged so that clients could find it easily, with an organization that would eventually be useful in making comparisons between materials. Since it was often the case that the clients

could not identify the title or author or publisher of material they wished to see, it was necessary to define broad categories and subcategories under which the materials could be placed.

3. Location of Suitable Materials for Specific Needs: While the categories and a card catalogue served the needs of clients who were interested in the material in a more or less general way, they were not adequate for locating instructional material that might be suitable for a particular learner to obtain mastery of a specific skill. The client needed to go through the following process:

(1) What is the learner's general level of competency? (E.g., grade level) Given (1), then

(2) What is the specific skill deficiency? (E.g., CRT level) Given (2), then

(3) What would be the behavioral objective? Given (3), then

(4) What assessment test could be used? Given (4), then

(5) What is the prescription to teach the skill? (Given (5), then

(6) What are the best materials available to teach this skill?

The question for the staff in the LRU became: How can we facilitate this process for the client? The evaluation process is a sticky business: What might be best obviously depends on many variables and cannot be predicted with any real degree of accuracy.

Finding the cost-to-benefit ratio of the material in field testing would yield useable results, but this procedure was not practical. One aspect which could be determined, however, was whether or not the material relates to a set of established objectives. The more closely these objectives can be defined, the more easily the relationship between them and the material can be established. Accordingly, the objectives of reading and other language skills were defined through the use of a set of criterion-referenced tests.

4. The Domain-of-Language-Skills File: Each test in the set of CRTs that we have chosen is an explication of one objective within a hierarchically arranged, interlocking set of tests and, in practice, a definition of the task that the learner must perform in order to reach the objective. Each task, then, is clearly defined. The file lists each of the skills tested in the CRTs, and each card following a skill heading lists a piece of commercial material which can be used to teach the skill. Each card contains information about what the material covers for one skill--that is, what is given to the learner in the form of instruction and what the learner is required to do--allowing the user of the file to compare two or more cards and decide what material might be more appropriate. Thus the tests can be used to discover the learner's specific skill deficiency, to formulate the specific objective, to determine the prescription, and to measure the

learner's mastery of the objective. The client can use the Domain-of-Skills file to find materials which will fit the prescription and achieve the objective.

## C. INTERNSHIP EXPERIENCE

1. Competencies: At the same time that the room was being established and its functions clarified, a list of competencies for the interns was being written. Just as changes in the room were influenced by the needs of the clients, so the competencies were developed as the needs of the interns were identified. As certain tasks were seen as crucial to the intern consultant in operating the LRU, specific competencies which related directly to its operations were formulated. To these competencies were added others which focused on using the LRU and evaluating materials in it, clarifying the consultant's role in a resource-room setting, and planning a resource room for the public school. An evaluation checklist which could be used by both the director and the interns to assure an acceptable performance and attainment of the competencies accompanied each task.

2. Handbook: The Handbook began simply, as weekly notes were written to the interns by the appointed student directors about the tasks to be done. In time, it helped to clarify the functions of the room itself. The interns' interactions with the student directors (their questions concerning the definition of tasks and ways in

which they should proceed, and their suggestions for other tasks as they were brought to light by the clients) prompted specific instructions which formed the basis of a formal handbook.

As new groups of interns used the Handbook, informal feedback indicated where additional explanation or instruction was necessary if the interns were successfully to complete the tasks. When tasks were done poorly or incompletely, more explanation was given. Instruction was added when this did not suffice or when it appeared that the entry skills of the interns were not sufficiently developed for the task requirements. The Handbook, as it is now used by the intern reading consultants, focuses upon the LRU as one model, and provides the opportunity for the interns to consider variations or alternative models.

## REFERENCES

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# THE COLLEGE READING SPECIALIST
# AS INSTRUCTIONAL TECHNOLOGIST

by
Donald E.P. Smith
The University of Michigan

If one traces the origins both of college reading instruction and of instructional system technology (IST), one finds few if any bench marks in common until 1960. IST's most fundamental principle, the law of effect, was formulated by E.L. Thorndike at the turn of the century; the first college reading center, of which I am aware, was established at Dartmouth in 1928. But, even while the theoretical foundation of IST was developing, certain of its techniques were being perfected by reading specialists. Today, one can observe the confluence of these efforts and, to some extent, predict tomorrow's developments.

## A Fifty Year History
## of College Reading

The accompanying chart is a personal history, in the sense that it resulted from stream of consciousness jottings as I pondered these two fields in which I have been immersed since 1950. Others might well have selected other events as noteworthy. But I included every event which occurred to me, arranged them chronologically, then grouped them by relevance to basic reading processes, literal comprehension and higher processes, including writing. The exercise revealed some things about measurement, training and critical issues resolved during that time span.

(1) Basic processes. Studies of visual perception during the thirties and forties profited both from improved measurement techniques and from Air Force research on aircraft recognition. American Optical Company's Eye Movement Camera, in harness with keystone View's Telebinocular (and other vision tests), gave reading clinicians a diagnostic tool of considerable worth. During the forties, Samuel Renshaw was pushing his graduate students to new records in the identification of strings of digits, with exposure time controlled by the tachistoscope. If I remember correctly, the record was 14 randomly ordered digits in a time span which precluded eye movements.

Stanford Taylor capitalized on those developments by marketing the Reading Eye Camera, to simplify recording of eye movements during reading, and the Tach-X, a hand tachistoscope for self-instruction, replacing Donald Durrell's cardboard-in-paper-sleeve device. Taylor also developed a film strip projector to control brightness in the display area, in order to reduce after-image effects.

The usual figures given for eye-movement phenomena at the time were as follows:

Fixation latency: c .3 sec.
Number of fixations/line: c 3
Fixations as a proportion of
total reading time: c 90%

Carl Semmelroth and I questioned those figures in the early sixties with data provided by using an adaptation of Norman Mackworth's Optiscan. We found what appeared to be "micro-fixations" with a latency of .05 sec. occurring on the gradients of letters, usually the first and last letters of words. Those results, presented in the 1965 yearbook of this series, led us to develop self-instructional training materials which would increase "perceptual accuracy" during a pseudo-reading task. Subsequently called Visual Tracking, this technique seems likely to displace the tachistoscope for training basic visual skills during reading.

(2) Rate of Comprehension and the First Debate. While some investigators were concerned with letter and word recognition, others focussed on the total reading act. Miles Tinker developed the Minnesota Speed of Reading Test which has yet to be improved upon for measuring rate of literal comprehension.

Also during the forties, Stan Taylor's father developed the first pacing device (other than the stop-clock), the Metronoscope, a box with three windows which allowed presentation of phrases, three to a line, from continuous text at a controlled rate. The Harvard reading films which followed, did essentially the same thing and became popular training materials in college reading clinics in the early fifties.

The first of several debates arose during the forties. The issue was whether training should target on peripheral functions, in effect, on letter and word recognition and on eye-movements, or whether it should be aimed at central functions, on thinking processes used during reading:

> Efficient reading results from efficient eye movements. Therefore, train eye movements.
>
> Efficient eye-movements result from efficient central processing. Therefore, train thinking processes used during reading.

From today's perspective, the resolution appears to be non-controversial. Both positions are correct:

> Letter gradients and word length control eye movements. Training in letter discrimination and in word configuration (actually, first and last letters and word length) result in fewer eye movements and in increased comprehension.
>
> Training in thinking processes which improve the prediction of the next word in a sequence will result in more efficient eye movements and will improve comprehension.

But even while this debate was occurring, other developments in measurement and training appeared. Frances Triggs and her Committee on Diagnostic Testing produced what has come to be known as the "Triggs Test," which allowed for different rates of reading for different subject matters. George Spache, and later Arthur McDonald, generalized this distinction between a single rate and several rates. Both produced measures of "rate flexibility": can you read at differing rates for differing purposes? Furthermore can you shift rates with changing purposes?

New devices for increasing efficiency also appeared. Science Research Associates produced the Reading Accelerator in the early fifties, followed by Samuel Stevens Shadowscope, both designed to allow the reader more flexibility than the Metronoscope and Harvard films and both in competition with the ubiquitous stop-clock.

Timed reading using Ruth Strang's exercise book was followed by Paul Witty's Better Reading Books, 1-4, designed for use with the Accelerator. Perhaps even more important, from the standpoint of instructional technology, was the introduction of the rate chart, or "progress plotter." With rate in words per minute charted on the ordinate and exercises charted on the abscissa, a maximally useful feedback method was provided. Its motivational power marked it as a fundamental training tool, both for skill training and for record keeping in experimentation, vying in importance with B.F. Skinner's "cumulative curve."

(3) Higher processes and the Second Debate. Increasing reading efficiency

is all very well said Frederick Davis but what of higher reading skills? The Cooperative Test Bureau's Reading Test was his answer, some nine skills determined by factor analytic procedures. And, at the same time, Francis Robinson was saying, reading speed may be all very well but its not what college students need. They need to know how to study, how to identify or to formulate questions answered by text, how to read to answer questions, and how to practice their answers in preparation for examinations. His study method, Survey Q3R, provided a needed corrective for college reading centers and a justification for emphasis on rate flexibility.

The Second Debate flowered in the early sixties with the advent of Evelyn Woods' "Dynamic Reading". Developed in response to the methodical plodding of many college students and adults, as was the flexibility concept, dynamic reading appeared, to many of us in the establishment, to be a quasi-transcendental act, at best, simply good skimming, at worst, irresponsible flummery. What was not apparent then was that an actual debate was in process, one between advocates of a synthetic study method (dynamic reading) and the remainder of the establishment, the analytic studiers:

> Efficient learning results from efficient skimming strategies.
>
> Efficient skimming results from efficient learning strategies.

Once more, these extreme positions appear both to be correct. The resolution may be as follows:

> Skimming provides organizational schemes or structures for ordering and recalling multiple concepts.
>
> Study strategies provide for mastery of the concepts to be recalled.

In effect, I am suggesting that dynamic reading, shorn of its mystique, means effective skimming and that its function is to provide a cognitive map of text material much as Robinson's "survey" step was designed to do. Furthermore, Ms. Wood has contributed to our understanding of the reading process by developing numerous skimming techniques.

(4) Two more debates. Jean Chall's "Great Debate", probably began with Arthur Gates' recommendation for teaching reading analytically, from whole to part, from sight words to phonics, from sentence comprehension to word analysis --rather than synthetically, from letter sounds to letter groups to phonics, as was the custom:

Analytic Meaning resides in words and sentences. The "look-say" method pays off by capitalizing on meaning, with word analysis postponed until a substantial stock of "sight words" is amassed.

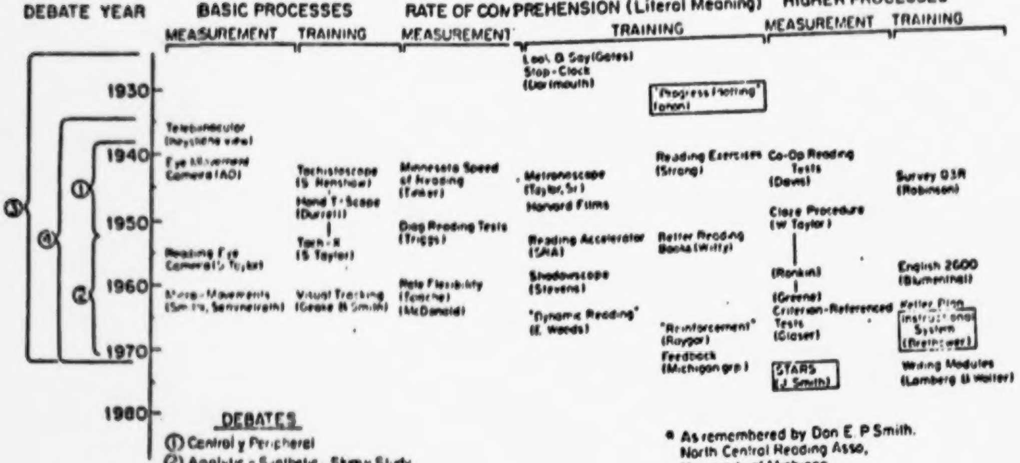
Synthetic  Sooner or later, words must be sounded out. Start with letter sounds and sounds of letter groups, and teach children essential skills from the beginning.

As sight word advocates have been saying ever since 1925, phonics skills are necessary. They should simply be postponed for a few months until children are actually reading (by using sight words). Then they should be taught exhaustively.

While reading specialists were arguing reading methods, linguists were waging a similar war. Kenneth Pike, Leonard Bloomfield and the Russian, Jacobson, were trying to build a linguistic model by limiting themselves to the lowest level of language, its phonology, while others, like Noam Chomsky, were insisting on the necessity for analyzing structures above the phoneme. In time, Pike demonstrated that meaning occurs at the three levels of analysis, the phonological, the grammatical and the referential, as well as in its structural aspects, word, phrase, sentence, paragraph and discourse (Figure 2). We shall return to this point.

(5) Writing, the Forgotten R. For reasons which remain unclear, college reading specialists have been unwilling to consider writing instruction as their province. The present directors of NCRA, as recently as this year, voted down a recommendation to include a paper session  on writing instruction in the conference proceedings.

# A 50 YEAR HISTORY OF DEVELOPMENTS IN COLLEGE READING*



**DEBATES**

① Central v Peripheral
② Analytic - Synthetic : Skimy Study
③ Analytic - Synthetic : Sight y Phonics
④ Analytic - Synthetic : Structural y Phonological

* As remembered by Don E. P Smith.
North Central Reading Asso,
University of Michigan,
1976.

Structure and Function
of
Spoken Language
(After Pike, 1976)

| | Phonological | Grammatical | Referential |
|---|---|---|---|
| Discourse | | | |
| Paragraph | | | |
| Sentence | | | |
| Phrase | | | |
| Word | | | |

Structure and Function
of
Written Language*
(Smith, 1976)

| | Perceptual (Visual & Auditory) | Associative (Equivalents) | Grammatical | Referential |
|---|---|---|---|---|
| Book | | | | |
| Paragraph | | | | |
| Sentence | | | | |
| Word | | | | |
| Letter | | | | |

Figure 2. Matrices depicting levels of analysis (phonological, etc.) and stimulus hierarchies (word, phrase, etc.) for spoken and written language.

---

* For a complete matrix, see Smith, D.E.P., *Learning to Read and Write: A Task Analysis.* New York: Academic Press, p. 102.

The Reading Center at the University of Michigan considered instruction in writing to be sufficiently important that its staff modified Robinson's formula to Survey Q4R (read, recite, 'rite, and review) and established a Writing Laboratory under Philip Clark in the mid sixties.

By that time Wilson Taylor's "cloze procedure", based upon the predictability of words in continuous text, had begun to emerge as a more valid measure of reading comprehension than multiple-choice tests. First Earl Rankin and later Frank Greene defined a number of statistical parameters of "cloze". In fact, "cloze" satisfied requirements for a summative measure of reading comprehension while formative measures were still unborn. (See STARS below).

(6) Programming, Feedback and IST. The first programmed book to be marketed (1960) was English 2600, conceived by Harcourt, Brace, written by Joseph Blumenthal and validated by a college reading specialist, Maxwell Bilsky of the University of Michigan Reading Center. Shortly, thereafter, Alton Raygor of the University of Minnesota's Counseling and Guidance Center, and David Wark, began using operant techniques to increase rate of reading; the Keller Plan (Personalized Self-Instruction) was introduced in college classrooms and swept the country; Robert Glaser (1963) defined the "criterion-referenced" test to replace standardized tests for measuring the impact of instruction, and Dale

Brethower, Raymond Cabot and I demonstrated the motivational power of information feedback (1969). Dale Brethower introduced the concept of the Instructional System. More specifically, he described the "adaptive classroom", a self-shaping system using feedback signals from both a training system and one or more receiving systems to increase reading and writing achievement of children.

Some twelve doctoral dissertations further defining feedback signals and adaptive systems culminated in a major innovation in writing instruction by Walter Lamberg and Daniel Wolter. Following a successful technique devised by Rowena Wilhelm to increase the quantity and quality of writing, these two set up self-shaping systems for high school and college students and demonstrated unequivocal improvement in creative writing.

One last item on the chart requires a note: Judith M.Smith treated the developments of the past half-century as a broad scale task analysis of the reading and writing processes. Using developments in linguistics, language instruction and IST, she constructed a set of criterion-referenced tests for reading and writing which embraces skills dealing with letters, words, sentences, paragraphs and books and which span four levels of process--perceptual, associative, grammatical and referential (see Fig. 2). The result is a series of graduated, one page tests, about 350, defining literacy. It is called the Standard Achievement Recording System (STARS).

(7) Implications and Futures. The confluence of IST and college reading instruction has led to an instructional system technology for reading and writing. IST is not machines, although machinery has occupied a good part of our history. IST refers to behavioral engineering, that is, to arranging environmental events in order to produce given behaviors reliably. It requires a thorough knowledge of the stimulus domain, i.e., the "skills" of reading and writing, and competency in transmitting information, e.g., instructional material, other media, and human interaction.

With such factors in mind, I have tried to predict events of the next few years. The 50 year history seems to project advances in training of the following kinds:

1. Defining questions:
   a. A specification of the nature and kinds of questions students must ask in order to read analytically

   b. Declarative equivalents of questions and procedures for transforming them into questions

2. Defining inferential reading skills:
   a. Definitions of: summarizing, generalizing, deduction

   b. Procedures for training these "higher order" skills

3. Analysis of discourse, for teaching writing.
4. Specification of system factors:
    a. Measures to be fed back to students in order to allow self-shaping of learning behaviors
    b. Measures to be fed back to instructors to demonstrate the value of skill training
5. Development and validation of powerful self-instructional materials based upon a systematic task analysis of the adult learning process.

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Follow Up of a Strategy
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The Operation of a Cafeteria Course
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Some Influences of "Speed Set" on Rate of Comprehension During Testing
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